THE Genesee Farmer.

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## BONES AS A FERTILIZER.

We have received several inquiries in regard to the value of bones as a fertilizer, and the best method of preparing and applying them.

The value of bones depends almost wholly on the phosphate of lime and gelatine which they contain. If we burn bones the gelatine is driven off, while the phosphate of lime remains as ashes. Dry bones contain, in one hundred lbs., about fifty lbs. of phosphate of lime, and gelatine equal to about five pounds of ammonia. The commercial value of the former is about one cent per lb.; of the latter, twelve cents per lb. This would make one hundred lbs. of bones worth $1.10—the phosphate being worth fifty cents, and the gelatine sixty cents. In burning, therefore, we destroy more than half the value of the bones.

The great question is, how can bones be applied so that the phosphate and the gelatine shall be both retained. Plow them in whole, is the first plan that suggests itself. This certainly retains in the soil all the virtue there is in the bones; but they are so slow to decompose and give up their fertilizing matter, that little or no immediate benefit is derived from their application. Place them in moist unleached wood ashes, or in horse dung, or other fermenting material, and they will decompose and fall to pieces, is another way recommended. This plan has had many able advocates. It has doubtless in many cases proved effectual. There is, however, this objection to it: a considerable portion of the ammonia formed during the decomposition of the bones escapes; and if, in order to retain the ammonia, we surround the heap with loam, peat, etc., fermentation proceeds so tardily, from lack of air, that the object is but half accomplished. Better, however, treat bones in this way, than allow them to lie bleaching in the summer's sun, an eyesore to every passer-by.

Phosphate of lime, as found in bones, is comparatively insoluble in water; and, as plants can take up their food only in solution, it is very desirable that this insoluble phosphate should be converted into a soluble phosphate. This can be done simply by the addition of the proper quantity of sulphuric acid and water to the insoluble phosphate of the bones. The value of this change may be understood by the consideration of the fact that, while the insoluble phosphate sells in London for less than one cent per lb., the soluble phosphate sells readily, as a manure for turnips, at eight cents per lb.

Knowing the increased value of the soluble phosphate, and the great difficulty of reducing bones to a powder, many scientific men have recommended farmers to dissolve whole bones in sulphuric acid, and thus "kill two birds with one stone." We have experimented not a little on this subject, and have come to the conclusion that it is *practically impossible* to make a good superphosphate of lime from whole bones. We have used twice the quantity of acid necessary for the conversion of the phosphate into superphosphate, and allowed it to act on the bones for several months, yet only a very small proportion of the bones was decomposed. Equally unsuccessful, too, have we been in dissolving coarsely crushed bones. The acid, it is true, decomposed the outside portions of the bones, but left by far the greater part of the bones untouched. We have never yet succeeded in making a good superphosphate of lime without grinding the bones quite fine before mixing them with the acid.

We conclude, therefore, that while bones may be disintegrated by moist, unleached wood-ashes, or by fermentation, the only method of obtaining *all* their fertilizing properties is by grinding. We should be sorry to discountenance experiments having for their object the decomposition of whole bones; but at the same time we could wish that some of the intelligence, ingenuity and skill, which have hitherto been unsuccessfully employed in this matter, were turned to devise a cheap and efficacious bone-mill, and that one was erected in every town of the country.

Having the bone dust, how should it be used? Should it be converted into superphosphate, or sown on the land as it is? We have thought much on this subject, and are inclined to think that, except in the neighborhood of large cities, where sulphuric acid can be obtained at a reasonable rate, say two cents per lb., it will generally be cheapest in the end to apply the bone dust without mixture with acid. For wheat, we are fully satisfied it will not pay to decompose the bones with acid; and on grass lands, from the experiments we have made on the subject, we conclude it is of doubtful economy. For turnips and other root crops, except potatoes, no manure has such a beneficial effect as good home-made superphosphate of lime drilled in with the seed. If sown broadcast its effects are not so marked.

With fine bone dust, no farmer need have any trouble in making superphosphate. We have succeeded best as follows: Take a large tub or end of a cask, place in it the quantity of bone dust that can be best worked at a time, say sixty lbs.; add water sufficient to wet all the bone dust, say forty lbs. and be careful that all the dust is moistened. Then pour on sulphuric acid equal to full one-third the weight of the bone dust, say twenty to twenty-five lbs. (sp. gr. 1.70.) The mass should be briskly stirred as soon as the acid is added. When it is well mixed, throw the semi-fluid mass in a heap on a wooden floor, and repeat the process till the whole is done. The larger the heap the better, as the heat generated in the process materially assists the acid in decomposing the bones.

A tolerably good superphosphate may also be made with less labor, by placing all the bone dust at once in a heap on a wooden floor, adding the proper quantity of water, and turning over the heap until all the dust is moistened, and then apply the sulphuric acid in small quantities, repeatedly shoveling over the heap, and adding the acid until the proper proportion is used. The longer the superphosphate is allowed to remain in the heap, the better.

Superphosphate so made will be too moist for transportation, and cannot be sown to advantage without admixture to some absorbent substance. In England, burnt clay, refuse charcoal dust, coal ashes, dried peat, or even sawdust, are used for this purpose. Whatever is used, be very careful that it does not contain an alkali, or alkaline earth, as this would materially injure the mixture.—Unleached wood ashes and lime, must on no account be employed for this purpose. They would neutralize the acid, and reconvert the soluble superphosphate into the insoluble phosphate, and thus undo what has been done at considerable expense.

### LARGE YIELD FOR TWO ACRES.

In a recent conversation with the Hon. A. B. Dickinson, of Hornby, Steuben Co., N. Y., he stated that he obtained one hundred and forty-four bushels of barley the past season from two acres of land, or *seventy-two bushels per acre.*

The land had been in grass for some years—which was *irrigated* and produced a heavy crop of hay each year. It was broken up in the fall, and sown to oats in the spring without being plowed again — it was simply harrowed two or three times lengthwise of the furrows. The crop of oats was *eighty bushels per acre.* After the oats were off, the land was plowed in the fall, and planted to potatoes in the spring. These yielded four hundred bushels per acre. The land was again plowed in the fall, and sown to barley the next spring without again plowing. This produced, as before stated, seventy-two bushels per acre.

These are all great crops. They are doubtless attributable in a good degree to the *irrigation of the grass land.* The sod or turf which was plowed in was very heavy, and its decay in the ground furnished a large amount of organic matter for the use of the subsequent crops.

We write this from memory. If we have made any mistakes, Mr. Dickinson, we hope, will correct them. And we would also here say, that we should feel obliged if Mr. D. would write us a short article on irrigation. He has had much experience in this important, but too much neglected, branch of good farming, and we are sure an article from him on this subject would be read with interest.

Scarcity of Fodder.—A. S. Graham, of Chautauque Co., N. Y., writes us, that, owing to the June frost last year, which destroyed more than half the crop of grass, farmers in that county are drawing corn fodder twenty-five miles to feed their stock; while some are driving off their cows to be wintered elsewhere. The young stock has been mostly sold, to go East, and also the working oxen. But they have held on to the cows. Thousands of bushels of corn were sown for fodder, which has proved a great help.

Cotton in Illinois.—The *Prairie Farmer* states that cotton has been successfully raised last season in Sangammon Co., Ill. The quantity grown was small, but it will encourage further trials.

## POTATOES PLANTED WITH CORN.

Several of our correspondents, in the last and preceding volumes of the *Farmer*, have recommended the practice of planting potatoes between the rows of Indian corn. The potatoes might be planted between each hill of corn in one direction of the rows, and still allow the use of the horse-hoe alongside; but of course it could not be used both ways, which is often very desirable, as it saves much hand-hoeing.

It would seem to us, too, that with a good crop of corn, the land would be so shaded that potatoes would not thrive very well; or that, if they did, they would rob the corn of its needed food and moisture, the same as grass or weeds.

If, however, good crops of corn and potatoes can be obtained, as is asserted — and which, if the ground is rich enough and properly cultivated, is not improbable — the practice is one which should be generally known. We need more light on the subject; and the object of these remarks is to elicit the opinion of our readers. In the Albany *Cultivator* for 1839, S. W. Newton, of Brooklyn, Pa., gave the results of an experiment the preceding year. His practice was different from the one we have alluded to above. He says:

"I planted fifty-four perches of ground, after being once plowed perfectly and well dragged, in the following manner, viz: three rows of potatoes and three rows of corn, and thus alternately. The corn I planted in rows, three feet and a half by two feet, three stalks to the hill; the potatoes, in drills from fourteen to fifteen inches asunder—planting both on the flat surface. I planted on the last day of May, and harvested on the 15th of September, and obtained twenty-four bushels of ears of corn, three loads of pumpkins, and fifty-five bushels of potatoes. The season was not altogether congenial to the potato with us last summer, being too dry; of course the seed was, by hoeing, raised too high to insure a full crop; and had the ground been lightly furrowed for the potatoes, and ridged for the corn, I think the produce of each would have been considerably increased—that of the potato in particular. The produce of an acre would have been seventy-one bushels of corn, and 163 of potatoes. This is at the rate of thirty-five and a half bushels of shelled corn to the acre, according to the usual mode of planting; and since forty bushels in this country is counted a tolerable crop, the potatoes might be counted almost a clear gain to reward for the experiment."

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Guano was first introduced into England in 1841,—twenty casks being brought to Liverpool by Mr. Myers. Subsequently its use became so general that, for the ten years ending 1857, the English farmers expended more than *one hundred millions of dollars* in its purchase.

## CALIFORNIA POTATOES.

The Rev'd H. H. Thompson, of Cochranton, Pa., sends us an account of a very productive variety of potato, grown last year in that neighborhood He says:

"I obtained last spring, from a friend, three potatoes of the California variety. Having cut them in pieces containing one eye each (seventy in number), I planted them on the 23d of May, in a light sandy soil, which had previously been in a high state of cultivation, but had lain out for two years. I used no manure; I planted one eye in each hill, three feet apart; horse-hoed three times; hand-hoed twice. The result was eight bushels of large-sized potatoes—many of them weighing over three lbs., and some of them over four lbs. I do not regard them a good variety for table use, being about equal to the "Pale Reds;" but for stock, I think them unsurpassed by any. They are a yellow, rich, succulent potato, and their great productiveness makes it an object for farmers to cultivate them for their stock. Several of my neighbors have cultivated them the last season, and in every instance they proved very productive."

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Wheat from the South.—In answer to the question, "How can we best increase the early flowering and ripening of winter wheat; and should the seed come from a more southern or a more northern latitude?" a correspondent says: "I think the seed should come from a more northern latitude; for, as we go south, gradually, seed-time becomes later, and as we go north, seed-time becomes earlier. Therefore, if we should bring wheat from a more northern to a southern latitude, we should be likely to get wheat that would be more thrifty and ripen earlier."

We can not see the force of this argument. It is true that "seed-time" is later as we go south, but the *harvest* is earlier; and, as our object is not to get wheat that we can *sow* earlier, but rather that which *ripens* earlier, it would seem that we should get our seed-wheat from the south. But we do not want *speculations* on this subject. Let us have *facts*.

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Cut and Crushed Food for Horses. — The horses in Flanders are kept in the stable winter and summer. Their straw and hay is always cut, and their grain always given to them in the form of meal, and generally *mixed with their drinks*. Their daily food in winter is 15 lbs. hay; 10 lbs. straw, and 8 lbs. oats. In summer, clover is substituted for hay. The horses are in the finest condition.

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Thousands of lambs are lost for the want of one night's shelter. Thousands of sheep are destroyed by constant shelter.

## FARMER'S CLUBS.

The importance of a well organized Farmer's Club can not be over-estimated. Such a club, when kept up with spirit, is a most admirable means of imparting practical information and eliciting important facts. Is it not an agreeable and profitable way of spending the long evenings of our cold winter days, for a number of farmers to assemble at some appointed place, and spend the passing hours in the discussion of subjects connected with the advancement of their mutual interests? Is it not desirable that many of the theories brought forward by the agricultural journals of the day, should be discussed, and ventilated, by the very men for whose benefit they were professedly broached?

Our attention has been called to this subject by the perusal of a little work recently published by D. Ayer, of Little Falls, N. Y., entitled "Essays and Discussions on Agriculture, before the Farmers' Club of Little Falls." A few extracts will give some idea of the range of subjects discussed:

Peas and Potatoes together.—Peas were sown with the potatoes at the time of planting, and they entirely escaped the rot. The yield of both peas and potatoes was good.

Wintering Calves.—Particular care should be taken of calves, during the early part of winter. Other food beside hay should be given,—small quantities of oats or roots will be most serviceable.

Yellow Birds vs. the Midge.—A farmer seeing this bird a good deal in his wheat, killed one, and upon opening its crop found two hundred weevils and but four grains of wheat,—and in these four grains the weevil had burrowed.

Salt for Milch Cows.—Without the use of salt, the milk becomes scanty and imperfect. The greatest necessity for its use is in the spring, when the cows are first turned out to grass. A few experiments in May and June showed that going without salt five days shrunk the milk from one to two per cent. in quantity, and from five to seven per cent. in quality. Later in the season, less difference was observable.

Food for Horses.—Variety is an essential. Oats are not the only food that will fit a horse for labor or the road. Roots are oftentimes much superior. Of these, carrots are the best, and keep the horse sleek and in good health. Heavey horses, while fed on cut corn-stalks, together with a little corn and cob meal, will not show any symptoms of this disease.

The importance of clean Milking.—Careful experiments showed that the strippings, or the last half pint of milk drawn from the cow, contain more cream than twelve times the same quantity taken from the first part of the same milking. In some of the experiments the proportion was considerably greater.—[The experiments alluded to were made by Dr. Anderson, we believe, half a century ago, but are none the worse for that.—Eds.]

Board Fences.—The usual width of boards, for a panel fence, is about seven inches for the two upper boards, and eight or ten inches for the lower ones, making 44 feet of boards per rod. By having the upper and lower boards six inches wide, and two four inch boards between them, and leaving a space of six or seven inches between the boards, 27 feet of lumber per rod will make a fence high and strong enough to keep out farm stock.

Sheep in Winter.—The first great want of sheep in winter is protection from the inclemency of the weather. Shelter is a prime necessity to them. Confinement is, however, not advisable; but the opportunity of having a refuge to go to when it is necessary, ought to be given. Feed regularly, and give them free access to water.

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Heavy Oats.—That a bushel of heavy oats are worth more than a bushel of light oats, all admit; and it is equally certain, though perhaps not quite so apparent, that, *weight for weight*, the heavy oats are the most valuable. It has been found by experiment, that a bushel of oats weighing forty-two lbs. yields twenty-five pounds of meal; one weighing forty lbs., twenty-three and one-fourth lbs.; thirty-eight lbs., twenty-one and three-fourths lbs.; thirty-four lbs., eighteen and three-fourths lbs.; and a bushel weighing only thirty lbs., yielded only sixteen lbs. of meal. In other words, one hundred lbs. of oats, which will weigh forty-two lbs. per bushel, will give sixty lbs. of oat meal; while one hundred lbs. of oats weighing only thirty lbs. per bushel, afford only fifty-three lbs. of meal. It will be seen that two bushels of the heavy oats are worth as much as three bushels of the light oats.

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Plaster.—The late Jesse Buel, in the *Cultivator* for 1837, said: "It is generally conceded, that upon porous and dry soils, plaster does benefit clover, corn, potatoes, peas, and generally all plants having broad and succulent leaves. But it is a matter of doubt, at least in our minds, whether its application is directly beneficial to timothy, wheat, rye, or barley." Subsequent experience, we think, confirms these opinions.

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Large Yield of Large Pumpkins.—A correspondent of ours says: "Mr. W. P. Yensel, of Stouchburg, Pa., raised seven pumpkins from two seeds. They weighed, respectively, 140, 130½, 75, 74½, 61½, 58, 58 lbs., making an aggregate of 597½ lbs. of pumpkins from two vines. Can this be beat?"

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Feeding Turnips to Cows.—If this is done morning and evening, immediately *after* milking, no taste of turnips will be discernable in the butter.—P., *C. W.*

## SPIRIT OF THE AGRICULTURAL PRESS.

TESTIMONIAL TO JOHN JOHNSTON, OF GENEVA.—We see by the *New York Tribune*, that a number of gentlemen interested in the improvement of agriculture, have clubbed together and presented a massive silver pitcher and two goblets to the above named gentleman. On one shield of the pitcher is represented a harvest field, as it appears in our day, on another a mowing machine is seen at work, and the third bears the following inscription:

"Presented to JOHN JOHNSTON, in recognition of his Services to the Agriculture of New York, by his fellow citizens." [Here follow the names of the gentlemen.]

The goblets bear representations of men laying drain tiles, tile machines, and small draining tools.

LARGE FARMS.—The *Country Gentleman* justly remarks: "The passion for more land is one which works incalculable injury to American agriculture. It crowds out of farming many who would otherwise engage in it—many who, were small farms more readily attainable, would do good service in the culture of the soil, and in the elevation of the character of our farming population. Let us be less covetous of surface, and not forget that we own the subsoil, and endeavor to make what we have attain a greater productiveness; and let us ask for better crops, finer animals, more serviceable implements, rather than 'one field more.'"

OSAGE ORANGE HEDGES.—A correspondent of the *Prairie Farmer*, in a sensible article on this subject, attributes the repeated failures with this plant to the want of care in cultivation, rather than to any want of adaptability of the plant to the climate and soil of the West. It requires to be planted in soil made mellow and well manured to the depth of at least two feet, and to be as carefully plowed and hoed through the summer as a row of potatoes, for two or three years, until the hedge is ready to turn out, when the ground should be well seeded with timothy. The plants are to be pruned three times a year: in spring, close to the ground; in June, four or five inches above the ground; in September, six or eight inches above the last cutting, and so on every year until the hedge is high enough and strong enough to turn cattle, after which it should be kept well trimmed.

LARGE FLEECES OF WOOL.—A California paper gives an account of two fleeces shown at the State Fair at Sacramento, Cal. The fleece of the buck Grizzly, owned by FLINT, BIXBY & Co., weighed 42½ lbs. It was of superior style and fineness, and was esteemed the best fleece ever shown. The fleece of the buck Samson, belonging to JOHN SEARL, was also shown. It weighed 32¾ lbs.

SINGED BACON.—The *Chicago Tribune* says Mr. THOMAS NASH, of that city, has adopted the Hampshire plan of singeing his hogs after slaughtering, instead of the usual mode of scalding them. After killing, the carcasses are covered with straw, which is then burned upon them. They are then turned, and the process repeated on the other side, leaving the carcases quite blackened. This dark coat is scaled off with a scraper, and the hog is found to be perfectly cleaned of bristles. It is then dressed, cut in half, head and legs cut off, blade and backbone cut out, the whole neatly trimmed with a knife, and the sides then laid in tiers, skin side downward, the meat surface plentifully strewn with salt to pickle it, and in about two weeks the process is completed, and the *singed bacon* ready for shipment in boxes to London, where it is preferred to any other.

FERTILITY OF SUBSOILS.—A correspondent of the *Country Gentleman* relates an instance in his own experience, where a portion of a rich alluvial meadow had been covered to a depth of from six to eighteen inches with a deposit of sand, washed down from an adjoining bluff. This portion of the field was considered ruined; yet he planted the whole with corn. The field averaged sixty-two bushels per acre, and that portion covered with sand yielded one-fifth more corn than what grew on the rich alluvial soil of the rest of the meadow. This same spot continued to produce equal to the best of the intervale for many years afterward.

FARMING IN MISSOURI.—A correspondent of the *Country Gentleman*, writing from Buchanan Co., Missouri, says: "I presume there is no section of the country where the subject of introducing good stock has been more neglected than in this, and where the stock is uniformly so poor." Hemp and corn seem to be the staple crops of that country, and the former has generally proved profitable until within the last year or two, when the market has not been so good. The wheat crop, he says, is a very uncertain one, under the system of cultivation pursued there.

SALTED WATER FOR SHEEP.—The *New York Tribune* gives the following experiment: 100 sheep were fed regularly 187 lbs. hay and 175 lbs. straw per day. This was replaced by 110 lbs. of hay and the same of cut straw, the sheep being watered over night with 33 gallons of water, in which 1¼ lbs. of sea salt had been dissolved. Notwithstanding this reduction in the amount of their food, the sheep remained in as good condition as they were before.

## NOTES ON THE DECEMBER AND JANUARY NUMBERS OF THE GENESEE FARMER.

FATTENING STOCK ON POTATOES.—Will the refuse of potatoes fatten stock, after having their starch removed by distillation, or any other process? There is proof enough that *one object* of carbonaceous substances (oil or fat, starch, gum and sugar,) in our diet, is the supply of fat. "The Esquimaux fattens on his diet of blubber and train-oil; the slaves on the sugar plantations grow fat in the boiling season, when they live heartily on sugar; the Chinese grow fat on an exclusively rice diet,—and rice is chiefly starch." It is said that an able-bodied, laboring Irishman, whose diet consists wholly of potatoes, requires fourteen lbs. each day, ten and a half lbs. of which is water, leaving but three and a half lbs. of solid matter, including the starch. Remove the starch, and is the balance left worth more for feeding and fattening purposes for being destitute of starch? The idea is not only "ridiculous," but supremely so.

COTSWOLD SHEEP.—I do not know but "sheep consume food *in proportion to their live weight.*" But I do know that the live weight of a man has nothing to do with the quantity of food he consumes. I have had in my employ many a lean, Cassius-looking chap, weighing from five to six score pounds, that would stow away twice as much food, for weeks together, as a plump, juicy one would, weighing ten score pounds, or over.

ADVANTAGES OF PULVERIZING THE SOIL.—This is a subject that is every year becoming better understood among farmers. But as you have set forth all the advantages accruing from thorough working of the soil, nothing further need be said upon the question just now; but it is one that will bear "line upon line."

FLINT well says: "Keep your cows in good condition, should be the motto of every farmer, posted up over the barn-door, and over the stalls, and over the milk-room." Would it not be a good plan to have these placards "struck off" in large letters, for the farmers to post up as above suggested?

TYING UP CATTLE, AND SOILING COWS.—Two paragraphs in close juxtaposition. TAMWORTH and Mr. QUINCY tell quite different stories about keeping cattle in the barn.

LIME AS A MANURE.—A farmer in Chester Co., Penn., says he "finds lime the cheapest manure he can purchase. He pays ten cents a bushel for it and draws it thirteen miles." How long can the fertility of a farm be kept up on lime alone?

SHEEP KILLED AND WOUNDED BY DOGS, IN OHIO. Two lines in the *Farmer* tell us that the number of sheep killed and wounded by dogs, in Ohio, in 1858, amounted to 96,977. Don't the farmers out there know the virtues of strychnine, in lessening the number of dogs?

PLASTER FOR TIMOTHY.—Plaster is generally considered more useful for broad-leaved plants, like clover, peas, beans, etc., than for the narrow-leaved ones, like timothy. If Mr. SHAW will apply at the rate of two bushels of plaster per acre, to his high and dry land, now stocked with timothy, it may increase the yield. But if it does not, it will soon, on his soil, bring in the clover, amply repaying the cost of the plaster and the sowing of it.

WHEAT MIDGE.—This scourge of the wheat-growers usually *wriggles* itself out of the wheat before it is harvested; seeks shelter near the roots of the stalk, and, burying itself to a slight depth beneath the surface of the soil, lies dormant until spring. After undergoing certain changes in the latter part of June and into July (depending somewhat upon the season and latitude), it assumes the winged state. Probably no amount of freezing will destroy their vitality. Provision has been made to perpetuate the midge, as well as thousands of other insects that survive the extreme cold of our winters, while in the chrysalis, or pupa state.

NATURE AND VALUE OF PEAT AND MUCK.—But little need be said to the readers of the *Farmer* upon the valuable contribution on peat and muck, by Prof. JOHNSON. It speaks for itself, and in language, too, that we common farmers can understand; and to be benefitted by its teachings, we must go into this muck and manure business with a right good will. But, as every farmer has not muck upon his premises, the decaying leaves and leaf-mold from his wood-lot, or saw dust, or even the spent tan from the tannery, will answer as substitutes. Dry saw-dust and tan both make capital bedding for cattle and horses, and ultimately good manure.

BEANS AND INDIAN CORN FOR MILCH COWS.—A mixture of corn and bean-meal for milch cows, when fed together as practiced by R. H. BROWN, is unquestionably better than either fed singly or alone. There are chemical and physiological reasons for this. King Philip corn, analyzed by Dr. JACKSON, contained four per cent. of oil, and sixty-three per cent. of starch, and only about seven per cent. of gluten, casein and albumen. The starch and oil, in animal economy, are used for the purposes of respiration, keeping up the temperature of the body, and for the production of fat; the gluten, etc., containing nitrogen, go to make muscle, milk, etc. The carbonaceous—the heat and fat producing elements of Indian corn—greatly exceeds those of the flesh and milk forming elements; while in beans, the order is completely reversed; that is, a given weight of beans contains three times the quantity of strength-giving, muscle-forming, and milk-producing elements, that the same weight of corn does; but the bean lacks in "available carbonaceous matter," so that, when fed alone, there is a loss of the nitrogenous portion of it. Fed as practiced by Mr. BROWN, we have a much more perfect or equalized food; that which will produce animal heat, fat and cream—milk, rich in both cream, casein, and in inorganic matters. With three quarts daily, each, of corn and bean-meal, and good hay, plenty of pure water, warm hovels, well littered, and a free use of the currycomb and brush, the farmer has a *right* to expect a good flow of milk, and No. 1 calves.

ROLLING SNOW ON WHEAT FIELDS.—The correspondent of the *Toronto Globe*, who advocates this practice, under certain conditions, is right. If the snow comes, as is sometimes the case, before the ground freezes, and succeeding shows follow so as to prevent the after-freezing of the ground, winter wheat and rye, under such a condition, are liable to winter-kill, or rather, to *smother*. The plants under the snow, when the ground is unfrozen, are in a growing condition, and use up all the oxygen

within their reach. The snow prevents the admission of any more, and the plants become diseased, and soon after the snow melts off in the spring they die; the leaves turning white, resembling narrow white tape. One of the essential conditions of the life of all organized beings, whether vegetable or animal, *is a supply of oxygen.* But when the ground is deeply frozen before the show comes, then the plants cease to grow, and require neither oxygen, nor any other element. If the ground is not frozen when the first six, eight, or twelve inches of snow comes, the passage of a heavy roller over the snow will so compress it that the ground will freeze by the first cold weather, almost as readily as if there was no snow on the field; and the plants *hybernate*, as it were, and will come out bright and healthy as the snow disappears. I think, Messrs. EDITORS, you have hundreds of farmer readers who can corroborate the above views.

KANSAS WHEAT.—The editor of the *Rochester Express*, saw a sample of wheat in Kansas weighing sixty-five lbs. per bushel, and yielding thirty bushels to the acre. Last week, I received a letter from Col. CATE, of Northfield, N. H., saying, that, from one bushel sowing of bald winter wheat, he raised twenty-four bushels, weighing sixty-five and a half lbs. per bushel. This is at the rate of over thirty-six bushels per acre, as we generally sow from one and a half to two bushels of seed per acre. From the above, it will be seen that down here in the region of ice and granite, we rather out-do Kansas in the wheat line. LEVI BARTLETT.

*Warner, N. H.*

## HAMPSHIRE BACON.

EDS. GENESEE FARMER:—The following is a method of preparing and curing bacon, with which I have been practically familiar, in Hampshire, England.

Hogs of the most desirable size for bacon, range from one hundred and sixty to two hundred and twenty lbs. The hair is singed off.* The gambrel is not used for suspending the carcass, unless the hams are to be taken out, which is seldom the case; but this is done by means of a double hook inserted in the openings of the gammon or pelvic bones. This method secures flitches of a better shape than when the legs are strained back. The carcasses are cut out on the following day. After removing the head, two incisions are made down the back, from the neck to the tail, as deep as practicable, one on each side of the center, and about an inch from it. The carcass is turned over, and the ribs and other bones cut through on either side of the spine, and close to it. The flesh is cut so as to meet the incisions previously made. The part thus removed is called the chine. This, however, is not always taken out, but the back-bone should be. For this purpose, but one incision is made down the back, and that one in the center. The bones on the inside are cut in the same manner as stated above, and the flesh is cut close to the bone, on either side, through to the one incision. The spare-rib, including the first four or five ribs, with a slice from the shoulder, is taken off. A slice from the gammon, including the first bone to the joint, the tender-loin, and about two inches, from the ends next to the spine, of the remaining ribs, with a part of the lean meat attached, are taken off. A strip, two or three inches wide, along the lower side of the flitch, and quite through it, is cut away. The legs are cut off; the blade-bone is taken out, and the ribs sawed nearly through the middle, and beat back so as to make the flitch as flat and even as possible. It is then ready for curing.

A small quantity of salt is sprinkled over it, and it is allowed to remain till the following day, when the saltpetre, finely pounded, is applied at the rate of half a lb. to the flitches of a hog weighing two hundred lbs. A liberal quantity of salt is sprinkled over the surface and the parts where the legs were taken off, and the flitches are stacked up, twenty or more in a pile, to any convenient height, and any number of piles. In two days from this time it is shifted. The top flitch, after thoroughly rubbing the remaining salt into every part, is put at the bottom in another place, and a fresh quantity of salt applied. The next flitch is removed, being treated in the same manner—and so on through the pile, the one previously at the bottom being now at the top. The next pile is shifted to the place occupied by the first, and managed in the same way, and so on for any quantity. This process should be repeated once in three days for ten days or two weeks from the first sprinkling of salt, according to the size of the bacon. A fresh supply of salt may not be needed every time; but the rubbing and shifting are necessary. The remaining salt should now be swept clean off, and the bacon removed to the smoke-house. This should be so constructed as to allow the smoke to pass off freely, as the confined, smothering process of smoking gives the meat an unpleasant flavor. From seven to ten days' smoking is sufficient.

The points requiring attention, in order to success, are thorough salting in as short a time as possible, and smoking in a well-ventilated house. In this country, it is not easy to preserve it in good condition, on account of the fly, and its liability to become yellow and rancid. The difficulty may, in some measure, be overcome, by packing it, when *quite dry*, in *dry* oats or straw, and keeping it in a *cool* and *dry* place. The flesh of some hogs, however, is of such a strong flavor, that no process of curing, nor care in preserving, will result in the production of *good* bacon. JOHN BRADFIELD.

*Rochester, Jan.* 1860.

CURE FOR HEAVES IN HORSES.—Common tar, mixed with a tablespoonful of ginger, made into a ball, with a little shorts. Given daily. The very worst cases have been cured by this simple remedy, and the cure is of a permanent character.—P., *Richmond Hill, C. W.*

* This is done by burning with wheat straw. The hog is laid on the belly, with the legs stretched out, and the head from the wind; or on the side, in which case a bunch of straw is placed between the legs. Straw is then shaken lightly over the carcass, say from nine to twelve inches in thickness. The fire is applied at the head, so that the flame is blown from the straw, in order that it may burn more slowly. The head, too, is not so liable to scorch as the gammons. After the straw is all burnt, the ashes are swept off, and a fresh quantity of straw is burned on such parts as are not sufficiently singed. Care must be taken to avoid scorching. After this the carcass is turned, and the process repeated on the other side.

After the hair is all singed off, the hog is cleaned by washing and scraping with a knife.

### SELECTING CALVES FOR REARING.

Use judgment in selecting such heifer calves as are to be reared. Select only those whose mothers are good milkers, and whose sires have come from good milking stock; at the same time, the calf itself should have those characteristics that indicate an aptitude to develope good milking qualities, viz: small, fine head, rather long in the muzzle, bright eyes, thin, tapering neck, small, well-shaped legs, long body, large hind-quarters, set wide behind, soft skin, fine hair—the color of which is immaterial—and above all, the milk mirror, or udder veins, should be large and well developed.

The raising of bull calves for breeders had better be left to those who have time and means to devote their attention to it, and procure the best animals to begin with. It would be no loss to the country were the numerous specimens of scrub bulls, too often seen, condemned to perpetual exile.

But there is no reason why a portion of the male calves, at least, should not be reared as bullocks, either for the team or the butcher; and it is important that such as are reserved for this purpose, should possess certain points indicative of future excellence, viz: well-shaped head, small ears, short, thick neck, deep brisket, broad chest and shoulders, fine bone, long body, well rounded behind the shoulders, straight back, wide loins, full quarters, tail thin and tapering, skin soft and not too thin.

It is too often the case, that animals are selected for rearing from their being of a pretty color, that takes the fancy of some member of the family; or the calf of some pet cow of the dairy-maid—without attention being paid to its defects or excellencies. Not unfrequently, valuable calves are fattened for veal, simply because their color is unpleasing to the eye. M.

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Knot Killer.—Take of gum shellac half a pound; alcohol, half a pint; put the two in a tight bottle, shake occasionally, and in a few hours it is fit for use. Apply with a swab or brush to all knots and gummy places. This will prevent the paint from cleaving off the knots, or the pitch from coloring the paint. With this article on hand, one can use common lumber, if the knots are sound, in the place of clear, and no one is any the wiser. Having obtained the above receipt without paying the five dollars generally asked by painters, with the privilege of telling whom Ip lease, I can do no better than to give it to your readers.—J. C. Adams, *Seymour, N. Y.*

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Seed Corn.—Every farmer should know that if seed corn is frozen before it is dry, its vitality is destroyed. If farmers will take care that their seed corn is gathered in season to get thoroughly dried before it freezes, there will be no danger of a strange and mysterious failure of seed corn, if the corn is ripe, or nearly ripe, when it is gathered.—S. Sharpe, *Jackson, Mich.*

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The Proper Depth of Underdraining is at the point where the water from springs meets the surface water and becomes stagnant. Experience seems to show that, *generally*, drains four feet deep are the best.

# Genesee Farmer Prize Essays.

### CAN SHEEP BE PROFITABLY FATTENED IN WINTER, AND HOW?

That sheep can be profitably fattened in winter, or at least fed to the profit of the owner, we have no doubt. Although we believe that in most cases where sheep are fed in winter, they are made to gain but little flesh; the gain to the owner being in the difference of price which sheep generally bring in the months of March, April and May, over the price they can usually be bought for in the months of September, October and November. We have, indeed, known sheep pretended to be fed for four months during cold weather, which were not in as good condition at the end of the four months as at the commencement. The remark of a man to us, whose sheep we were offering to purchase last April, that he had fed them to poorness instead of fatness, would be applicable to many who have done what they call feeding sheep for the butcher.

We will, however, give our own way of feeding, and its results; premising that without conveniences of the right sort, added to all necessary care, it is useless to think of reaping a rich reward. We first erect good sheds of sufficient height, width, etc., to hold the hay we design to feed—putting the hay in such order as will make it convenient to feed it directly into the racks. The racks we construct on the back sill of the shed, boring holes with an inch augur on the inner edge of the sill at a distance of about four inches apart. The sticks for the racks should be made smooth, and your sill, if about ten inches thick, should be elevated six inches above the floor. Make your racks of any desired height. In front of the racks and attached to the sill, construct your trough in which to feed your grain. It is well to make the trough of plank two inches thick, that it may be sufficiently strong. The bottom of the trough should be eight inches wide. The side of the trough to which the sheep have access should be two inches high, and the back side six inches. Let the trough be made flaring; that is, broader at the top than at the bottom. To the front side of your trough fasten slats made of boards ten inches wide and two and a half feet long, placing the slats eight inches apart. This will give eighteen inches to each sheep, which is about the width required for a sheep of one hundred and fifty lbs. weight.

Let the bottom of your trough be six inches lower than the top of your sill; all the better if your sill is hewn for the purpose, with the edge next to the trough depressed, so that the feed shall descend toward the trough. In this way all the leaves of hay, seed, etc., will find their way into the trough to be consumed by the sheep. The slats may be secured in their places by simply nailing the bottoms to the side of the trough, or, what is better, by cutting gains in the side of the trough and fitting them in nicely. At the top they may be fastened by placing a strip of plank on them and nail thereto. Thus we see, if we wish to feed one hundred sheep, we require one hundred and fifty feet length of shed. We lay a good plank floor for the sheep to stand on, and have it a little descending from the trough, so that their premises

may be cleaned as often as necessary. We do not elevate the floor above the ground, but simply bed the sleepers in the ground, on which we lay the plank, having the edges made straight so that the floor will be tight; and we do not then lose the manure under the floor. Were we feeding but few sheep, and those of about equal age and size, we would partition the trough into spaces of eighteen inches, enabling us to have our sheep fatten very evenly, by giving each his share of the grain. This, however, is attended with a little more trouble in feeding, as we can not as readily deal out by the pint or quart as by stringing it along wholesale. Make the slats and side of the trough, etc., sufficiently smooth that the sheep may not tear their wool when they come in contact with them.

It will be seen that our plan is not for large-horned sheep, as we never feed that kind. If sheep have only small horns, we saw them off. We do not, as we can not always get them, confine ourselves to one particular breed or kind, but rest satisfied with selecting those of good flesh, from three to five years of age, and as nearly of a size as possible. If we have not raised them, we purchase in the early part of the fall, that they may get domesticated, or, in other words, become acquainted with the premises they are to occupy. This is essential, as there are generally some shy ones which require a little attention to have them work in evenly.

As soon as the grass in the fields begins to lose its virtue by the frosts of autumn, begin to give them a little grain where they are, say corn, beans, peas, barley, etc., which they will soon learn to eat very well. This will not only prevent their losing flesh, but they will take it on, and it is much cheaper to do it at this season of the year than later, when the weather becomes colder. Whenever the cold rains set in, be sure and call them to the sheds already provided for them, and if they do not take readily to them, use a little ingenuity to familiarize them thereto. As cold weather increases, increase the amount of grain, until you find how much they require—feeding all the good clover hay they will eat. We have found corn-fodder, obtained from sowing corn so thick that the blades do not grow too large, to be equal to clover hay for feeding sheep, with this drawback: that the manure is not as rich in wheat-growing material as that made from feeding clover.

Let us here say that we have sometimes fed beans, and the result has always been satisfactory. We reckon one bushel of beans equal to one and one-fourth bushels of corn. We think a very advantageous way of feeding sheep with beans, is to pull and stack them before they are quite ripe, and when they are just cured in the stack, remove them to the sheds and feed without threshing. In this way the sheep eat all except the very roots. In our feeding sheep for the slaughter, we have been confined to the following grains: corn, beans and peas; and can not, therefore, speak experimentally of other grains.

Let it be understood that we are speaking of sheep worth the feeding, as we hold that small sheep for slaughtering are unprofitable. At all events, we have never made the little Merino, with his thin chest, narrow hips, and cat-made hams, pay for the feeding. We have found that a sheep four years old and weighing one hundred and fifty lbs., would consume about one and one-fourth lbs. of hay and a quart of corn per day; and, if not neglected in any particular, will make about thirty lbs., live weight, in four months, say one hundred and twenty days. Thus we see that in the one hundred and twenty days, a sheep eats one hundred and fifty pounds of hay, and three and three-fourths bushels of corn. Pretty costly thirty lbs., indeed, were we to go no further in our reckoning. But we must not stop here. We have found in eight winters we have fed sheep, that, six out of the eight, sheep were worth twice as much per lb. in the months of March and April as in October and November preceding. So, if we pay on the first of December three cents per lb. for a sheep weighing one hundred and fifty lbs., four dollars and fifty cents, and first of April sell the sheep, then weighing one hundred and eighty lbs., for six cents per lb., that is, ten dollars and eighty cents, we have a fair remuneration for money invested. Corn with us has been worth an average of sixty cents per bushel, taking the past eight years. From this we find that three and three-fourths bushels of corn costs two dollars and twenty-five cents. The one hundred and fifty lbs. of hay, at eight dollars per ton is sixty cents.

| | | |
|---|---|---|
| Sheep sold for | | $10 80 |
| One hundred and fifty lbs. hay | $0 60 | |
| Three and three-fourths bushels corn | 2 25 | |
| Cost of sheep | 4 50 | |
| | | 7 35 |
| Gain | | $3 45 |

Premising that the manure made amply pays for trouble of feeding, care, etc.

Some may perhaps think that the amount of hay in the above estimate is very small; but we have found, by actual measurement, reckoning four hundred cubic feet of well settled hay in the mow for a ton, that in feeding one quart of corn per day, it is all that a sheep of one hundred and fifty lbs. will consume. We wish it understood, that when we are speaking of hay, we do not mean dry, woody substances, worth to feed sheep about as much as a brush fence, but which some pack in their barns and denominate hay. We have sometimes fed a few potatoes and turnips in the early part of the winter, before the weather became severely cold, but consider them of too cold and watery a nature to be fed with profit when the weather is very freezing.

We will here give the statistics of a few winters feeding. In the fall of 1850, we purchased eighty sheep at two dollars and twenty-five cents per head, which was about two and a quarter cents per lb. We bought both hay and corn to feed them—hay at eight dollars per ton, and corn at fifty cents per bushel; and, in feeding them eighty days, they consumed four tons of hay and one hundred bushels of corn. At the end of eighty days, we sold them, to be delivered in Buffalo, at four dollars per head, amounting to $320.

| | | |
|---|---|---|
| Sheep sold for | | $320 00 |
| Cost of sheep | $180 00 | |
| Four tons of hay | 32 00 | |
| One hundred bushels corn | 50 00 | |
| Expense of driving to Buffalo | 9 00 | |
| | | 271 00 |
| Showing a gain of | | $49 00 |

We would here say that these sheep were fed in the open field, and had only the care of a boy

fifteen years old. In the winter of 1852–3, we fed one hundred and twenty, but, as we have not actual data before us, we pass them over.

On the first of December, 1855, bought twelve pet sheep, for which we paid eighty-six dollars. On the 28th day of March following, we had them butchered and sold them as follows:

| | | |
|---|---|---|
| Meat of the twelve, 1,044 lbs., at 10 cents | | $104 40 |
| Pelts " " at $2 | | 24 00 |
| 172 lbs. rendered tallow, at 11 cents | | 18 92 |
| Total | | $147 32 |
| Fed 1,872 lbs. hay, at 80 cents per cwt | $14 97 | |
| " 44 bushels corn, at 63 cents | 27 72 | |
| Cost of sheep | 86 00 | |
| | | 128 69 |
| Gain | | $18 63 |

| | | |
|---|---|---|
| April 6th, 1857, sold thirty sheep for | | $319 00 |
| Nov. 15, 1856, paid for the thirty | $150 00 | |
| Fed 2 tons hay worth | 25 00 | |
| " 76 bushels corn, at 70 cents | 53 20 | |
| Expenses to market | 15 80 | |
| | | 244 00 |
| Gain | | $75 00 |

December, 1857, bought a small flock of Merinos, which we fed through the winter. They did us so little good, and we were so chagrined at ourselves for attempting to make anything of them for mutton, that we kept no data.

| | | |
|---|---|---|
| March 29th, 1859, sold twenty-three sheep at home for | | $190 00 |
| December 1, 1858, paid for the twenty-three | $108 00 | |
| Fed 2½ tons hay, at $8 | 20 00 | |
| " 27 bushels corn, at 75 cents | 20 25 | |
| | | 148 25 |
| Gain | | $46 75 |

From the above, any one can draw their own conclusions, whether it would pay to feed sheep in winter. Would space permit, we would give a more detailed account of weights, etc., but as we are limited in space, for the present we end.

*Sheridan, Chautauque Co., N. Y.* H. T. BAILEY.

## WOULD IT BE PROFITABLE TO RAISE SWEET APPLES FOR FEEDING CATTLE AND SWINE.

This question certainly may be answered in the affirmative. It is a point, I believe, well established, that good apples are about as nutritious as potatoes, and with us a much surer crop; double the number can be raised on an acre, when the trees are grown, with less than half the labor. While the trees are growing, the land may be prudently cultivated, much to the advantage of the trees, and the crops may be made to be remunerative. Low, hoed crops are much the best for the trees, such as potatoes, peas, beans, turnips, etc On the Pelham farm, they raised one hundred and forty bushels of ears of corn per acre, between the rows of their fruit trees, which were eighteen years old, and this orchard was in the finest state of bearing. (*Downing's Fruit and Fruit Trees of America, p.* 63.) This is plain proof that we may raise profitable crops among our fruit trees, and that the use of the land is not lost until they come into bearing, —the great objection of some to planting fruit trees.

Now, in regard to the advantages of feeding apples to hogs. I have had some little experience, and when I first tried it, I was surprised at the result. About the first of October, some years ago, I bought a number of small hogs, and put them in an orchard covered with fine apples. I asked a man who was well skilled in raising and fattening hogs, how much I could make them weigh by killing time? He answered, if I kept them late, I could make them weigh from 120 to 125 lbs., net. I kept them in the orchard till about the first of the following January, and threw a little corn to them every day, until a while before I killed them, when I increased the amount,—but not to the extent usually given in fattening hogs—when they weighed (net weight) 165, 170, 180, etc. Better, sweeter pork and bacon we never had. This convinced me that apples could be fed to hogs with great advantage.

That apples can be made very profitable for feeding hogs, I deduce from the following calculation: Suppose we take one acre,—what applies to one acre, applies to any number of acres treated in the same way—and plant it in apple trees a little less than thirty feet apart each way, we will have fifty trees to the acre. We have seen that the land will produce remunerative crops long after the trees are ten years old. Suppose the trees to be well grown and in a good bearing state at ten years old,—as every man, by good cultivation, may have them at that age—say the crop of apples on a tree will increase the weight of a hog thirty pounds,—a small amount—a tree will be worth, at the present price of hogs (gross weight), $1.35; and an acre would be worth $67.50 per year. If the acre be cultivated at the same time, in other crops, they will pay for the cultivation. Surely, this result will be considered profitable. But the estimate does not stop here. Five dollars each will be considered a small sum for the trees, and you have fifty to the acre, you have added $250 to the permanent value of an acre of land. We might plant a large number of winter apples, say *Rawles' Janet* (they seldom miss bearing here), and gather them in piles convenient for feeding, and cover them thickly with straw. In this manner they would be preserved nearly or quite through the winter. This would greatly decrease the amount of grain necessary to keep hogs through the winter.

As apples are very nutritious, and as cattle relish them very much, they would be fine feed for them; but the better way to feed them to cattle would be to grind them, as they sometimes get choked by them. Ground and mixed with meal, they make a very fine feed for milch cows. Our country is subject to long drouths. When this happens, apples may be made very valuable to help out the grain crops, where they have partially failed; the apple not being as easily affected by drouth as the grain crops. It may be objected, that the apple does not bear every year. If we will get good, reliable sorts, suitable to the district of country where we live, and keep the land in good condition, supplying it with the ingredients drawn from it by the crops, an orchard will seldom fail to bear. Let us compare the value of a crop of apples to a crop of corn. Many people cultivate corn on land that does not produce thirty bushels to the acre, and forty bushels is more than an average crop. Forty cents per bushel is considered a good price here—$16 per acre. See the apple crop, $67.50 per acre. It may be said that corn will sell at more than forty cents per bushel in some places. If so, hogs will sell at more than four and a half cents per lb.; so the calculation will be equal. There is no doubt that pork and beef, and milk and butter, may be

principally made cheaper on apples than on grain; or, perhaps, than in any other way. If apples are so profitable for stock purposes, it may be asked, why do not people engage more extensively in their culture? I answer, because the subject is not generally understood. I look to the time in great confidence, at no distant period, when large orchards of the finest apples will be planted for stock raising, and with the greatest profit to the planter.

I have put the period of an orchard coming into bearing at ten years old, but trees will bear profitable crops long before that time. I have trees planted four years ago, that bore this season, and I hope to get a smart crop from them next year. The subject has only to be brought before the public in a right manner, to induce them to engage in it. People learn more by example than precept. When they see the matter tested by demonstration, they will then act. I will remark that orchards, to remain in good bearing and profitable condition, must be well manured and cultivated. We can not expect to be continually drawing the elements of fertility from the soil, and not replacing them, without a failure of the trees and in the crops.

*Chesher's Store, Anderson Co., Ky.* A. G. MULLINS.

### WOULD IT BE MORE PROFITABLE TO RAISE RYE INSTEAD OF OATS FOR FEEDING?

I would say not, if the farmers will raise the right kind of oats. We have here, in North Carolina, the Egyptian oats. We sow them in September, and they stand the winter as well as rye, and mature about the middle of June (about the same time of seeding and harvesting as our rye).

The Egyptian or winter oats are larger and heavier than the common spring oats. You may sow them on land that would not make more than ten or twelve bushels of rye per acre, and you will get from fifteen to twenty bushels of oats. The oat straw will be better than that of the rye, and equally as long. It may be the best plan to give my remarks in two classes, (as I am writing more for information than for a premium): first, of rye; second, of oats.

In North Carolina, rye is but little raised any more. It will not yield more than ten or twelve bushels to the acre, according to the land. The average is about twelve bushels to the acre, and weighing fifty-six lbs. per bushel, worth eighty cents, which is about nine dollars and sixty cents per acre for grain. The rye straw makes good food when cut, if it be cut very short; but unless it is well frailed in threshing, the straw is rather hard, and rye straw never has as much fodder on in as oat straw, which makes it less useful as a hay for cattle.

The Egyptian or winter oats are being raised by most farmers in the southern and middle counties of North Carolina. They were introduced into this (Stanly) county, by Dr. CRONE, some eight years since, and, instead of failing, as most new seeds do, they improve and get better. They yield from fifteen to forty bushels per acre, according to the land,—a sure crop on any kind. They grow high enough to save well on the poorest of land, where the common spring oats would have to be pastured, if saved at all. On good land, they grow from five to seven feet high (and I have heard of some stalks nine feet), and have heads from ten to eighteen inches long. These oats average about twenty-five bushels to the acre, weigh forty-five lbs., and worth sixty-five cents, thus making sixteen dollars and twenty-five cents per acre for grain. The straw is the best of food when cut and mixed with meal. The straw is soft and has large blades, which make it a good hay for cattle, and horses will eat it from the rack more heartily than they will hay. One bushel per acre is seed enough to sow, and some farmers have raised three crops from one seeding, by plowing in the scattered heads, instead of pasturing. Mr. FISHER says his crop for 1859, which was the third from one time sowing, was better than the first. The time and labor for raising oats will not cost any more than that of rye, and is much pleasanter work in harvest. The farmer will make sixty-seven per cent in weight per acre, by raising oats, and if for sale, seventy-three per cent. in money. At the same time oat straw is worth fifty per cent. more than rye straw for food as a hay, and much better for cutting.

If you think this will be of any advantage to Northern farmers, you may publish it for their benefit, and if they have not got the Egyptian or winter oats, I advise them to get some and try them, for they are much better for feeding than rye, and leave the land in better order to fallow for corn, in this Southern country.

*Leo, Stanly Co., N. C.* JOHN T. HOWELL.

### FEEDING CATTLE.

"Is it better to feed cattle two or three times a day in winter?"

THREE times. For, when cattle are turned into good pasture, they soon eat their fill, and then lie down to chew their cuds. This they will do from three to five times a day, if the weather be cool and the flies do not trouble them. When left to take their own course in the matter, they act according to nature's teaching. By this we may learn that they require feeding at least three times each day. If fed but twice a day, they must either be fed so much that a portion of their food will be left lying before them after they are satisfied; or, if fed only as much as they will eat up clean, they must suffer inconvenience from hunger before the next feeding time. Cattle, when fed more than they can eat at once, leave the coarser portions, and will not eat it until pressed by want. Better feed five times a day than but twice. Cleanliness and regularity are indespensable, let the feedings be few or many.

M. GARNSEY

### IS IT BEST TO HILL CORN, OR NOT?

FROM my observations, I conclude that no particular advantage is gained by hilling corn, if the ground could be as thoroughly and easily stirred without raising a hill. But the cultivator naturally throws the dirt toward the plants, and it would require *labor* to remove it. As corn has always done well when hilled, and, perhaps, *as well* when not hilled, it strikes me that it is a question rather of convenience than anything else. Make the soil light and mellow to a great depth, by subsoiling or underdraining, and there will be no trouble from excess of moisture in a wet time, whether hilled or not.

*Attica, N. Y.* ‡‡L. S.‡‡

## THE BEST METHOD OF RAISING AND FATTENING HOGS.*

JOHN SKAATS, of Alexander, Genesee Co., N. Y., raises the cheapest pork and heaviest pigs of any man within my knowledge. His peculiarities are somewhat as follows:

1. Keep the breeding sow pork fat.†
2. Begin to feed the pigs as soon as they will eat; new milk at first, then slops, sour milk, apples, cooked and bran shorts stirred in, etc.
3. Never feed the pigs with the sow. Give them an apartment with small openings, that they may eat at their leisure, while the sow can enjoy her own dish at leisure, and not root them out of the trough.
4. Never let them get hungry. At first, feed six times a day,—never less than four.
5. Feed regularly. First feeding at 4 A. M., and last at 9 P. M.—punctually and exactly.
6. Never *begin* to fatten, but always keep them fat.
7. Cook their food, or let it sour in the swill-barrel, if given raw. Sour apples that have lain in the swill forty-eight hours, they will relish, when they would not touch a fresh one.
8. He uses very little corn—sometimes none; giving only coarse feed, such as bran, shorts, etc.
9. He uses a judicious cross between the Suffolk and Byfield breeds.
10. He never keeps a pig till it is over a year old, except for breeding purposes.
11. He makes pigs, at ten months old, dress over four hundred lbs.,—four hundred being his *average* mark.

Sometimes he allows his swine a small range in the best white clover pasture, and at other times he keeps them close from pighood to porkhood.

*Attica, N. Y.* ‡‡L. S.‡‡

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WE intend not to say how a few hogs can be raised to an advantage, but how a man may raise them as a business, with the least labor and expense, and leave the land in the best condition. All farming, in my opinion, ought to be conducted with a reference to the continual improvement of the soil. Present gain, by a deterioration of the soil, will ultimately prove to be a loss.

To succeed in raising hogs, as in other stock, we should have a good breed. The Berkshire crossed with our common hogs, constitutes a very good stock. The Berkshire communicates its fattening properties and early maturity,—two very desirable qualities—and the common stock gives size. A cross of the Berkshire on the Irish grazier makes a very good stock.

Say we have a good stock to begin with; a stock that matures early and fattens well. The pigs should come from the middle of March to May. There is great advantage in pigs coming at this time; as we can graze them through two summers, and have them to keep only through one winter. They come to be of fine size by the second fall or winter. Hogs may be pushed into market younger, but at more expense in grain, and they will be smaller at fattening time, which is a great disadvantage.

The greatest profit in hogs is in grazing them, and turning them upon grain fields, where they can gather for themselves; and having them large and in good condition at fattening time. The sows and pigs should be kept in good growing condition, by feeding them on Indian corn, or corn-meal made into slop. As soon as the clover begins to blossom, or a little before, turn them upon it. Sows and pigs should still be given some grain, while in the clover. Have a field of oats early sown,—the size of the field to be in proportion to the number of hogs—and as soon as the oats are ripe, turn the hogs upon them to gather for themselves. To pasture hogs to the best advantage through the summer, it will be necessary to sow a field of rye, as above, and after they have eaten the oats, turn them upon the rye. Though the rye will be ripe before the oats, it is thought better to let the beards rot, and it will keep good in the field until September; whereas the oats will rot in a short time. After the hogs have eaten the rye, they may go upon the clover again. They then should have old corn to keep them from being reduced in flesh; the second crop of clover not being as good as the first. This method may appear very wasteful to those not familiar with it; but if a little grain is left on the field, it will be an excellent fertilizer, and the straw and everything that grew on the field is left there, except the fat that is driven off with the hogs. This leaves the field in good condition for the next year.

The hogs should be kept in good condition through the winter and spring. The best place to winter them is in the woods, and let them have low, long, dry shelters to sleep in. Let them be turned on the clover the second year about the time it blossoms, and I prefer to give them a little grain. Then let them go on the oats and rye as they did the first year. When they come off the rye the second year, it is very important to grain feed them while on clover, until they are put up to fatten. It is a great advantage to have hogs large and in good condition when fattening time commences. A lot or small field of corn, early planted, to turn on about the 15th or 20th of September, is an excellent plan; or fence off, with a temporary fence, a portion of a larger field. Continue the hogs in the field until about the middle of October or the first of November; then take them to a field intended to be plowed for next season (a clover field is best), and feed them plentifully until about the first of December, at which time they will be fit for market or slaughtering.

By feeding down upon the field, you save the labor of gathering, and leave all that grew upon it, except what is driven off in fat upon the hogs. By sowing the field in rye a few days before the hogs are taken off, a fine crop can be obtained. The grain left upon the fields pastured during the summer will soon spring up, and afford a fine fall and early winter pasture. If it be intended to sow the oat and rye fields in clover, the pasturing down of the grain makes no difference. Take off the hogs as soon as they eat the grain. The decaying straw and manure left upon the field will be an advantage to the clover.

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* Of the essays sent in on this subject, the committee recommend the publication of the two here given, and we accordingly award a prize to each of them.

† Will they breed well when so fat? EDS.

The hogs should be well salted, and have access to water. From the middle of October to the first of November, it is important to have a good, dry shelter for them to sleep in; earlier than that, they will generally sleep in the open air. If it is desired to fatten hogs the first season after we commence raising, of course we must buy them of suitable size in the spring. The number kept to breed from must be suitable to the number we want to raise. A good brood sow will raise two litters a year, and from six to ten at a litter. A little experience in this matter will direct us aright.

By a strict attention to the above method of raising and fattening hogs, as much or more can be obtained for the grain than it can be sold for, and all of it fed upon the farm, which is no small consideration. By raising grain and selling it off the farm, it will be becoming poorer. By raising and judiciously fattening hogs, the farm will be growing richer. This, in ten years, will make a great difference. I have known some farms, reduced almost to sterility by bad management, by a proper management in sowing rye, and oats, and clover, and feeding them on the ground, made very productive. Feeding Indian corn upon the land is very improving to it. I once knew a field planted in corn for four years in succession, and the last crop was as good as any that preceded it.

In regard to the worth of grain fed to hogs, I made one long-continued experiment, which satisfied me that it is remunerative. Some years ago, I had a lot of corn which I could sell for only twenty cents per bushel. I concluded I would feed it to some pigs, which came about New Year's. I gave them two ears a day each, until April—about ninety days. I weighed an average one on the 1st of April, and it weighed fifty-two lbs. It was then worth two and a half cents per lb., or $1.30. It had eaten one and a half bushels of corn. I then increased the feed to three ears per day, until the 15th of July—about one hundred and six days. Each eat, from April until the 15th of July, three hundred and eighteen ears; weight one hundred and thirty lbs., and worth $3.25. They had eaten each, from January to the 15th of July, four hundred and ninety-eight ears,—not five bushels of corn, which was only worth $1; whereas the shoat was worth $3.25. While corn was worth only $1 for five bushels in the market, less than five bushels was worth $3.25 fed to hogs. This was effected without clover in the summer. By calculating the above weights at four to five cents per lb., you will have the worth of the pigs at present prices. This convinced me that corn can be profitably fed to hogs.

I think now I have redeemed my promise; shown how hogs can be raised as a business, at the least amount of labor and expense, and leave the land in the best condition. A. G. MULLINS.

*Chesher's Stone, Anderson Co., Ky.*

## SUBSTITUTES FOR HAY.

"What are the best substitutes for hay, in feeding cattle, horses and sheep in winter?"

I KNOW of but one article that could be substituted for hay in this section of country, and that is corn-stalks; and I think they might be used altogether for that purpose, with advantage and profit. Some would, perhaps, add roots, but these are as necessary when stock are fed hay, and more so, than when kept upon cornstalks; the latter being of a more laxative nature than hay, and, next to grass, the most natural food for all kinds of stock. I would by no means discourage the raising of roots for feeding stock, but there is not that necessity for them, when they are fed cornstalks, that there is when they are kept upon hay. An acre of cornstalks, if well taken care of, is worth nearly or quite as much as an acre of clover hay, and then we have the corn besides—an item well worthy of consideration in such times as these. It may be said by some, that corn is an uncertain crop, and liable, in many localities, to be cut off with the frost and the fodder injured. But let those who live in such places plant early kinds, and not continue to plant the same kinds that their grandfathers did, and the risk will be much diminished. I have raised good sound corn the past season, of the King Phillip variety, that could all be cribbed and saved without any sorting, which was not up when the June frost occurred, and was ripe previous to the frost in September. Who can estimate the advantage to the country, had this or some other early variety been more extensively planted the past season? Horses, cattle and sheep are very fond of cornstalks, and they will greatly mitigate, if not entirely cure, the heaves,—a disease so prevalent among horses which are kept entirely upon hay, and especially clover.

If the corn crop does not furnish fodder sufficient for wintering the stock, corn can be sown broadcast or in drills, and in this way a much larger amount of good fodder can be obtained to the acre than of hay. And it is a fact which is freely admitted by all, that for milch cows they are far superior to hay. The only difficulty is in curing them so as to keep. But if they are cut early, bound and set up in shocks, and left standing till the latter part of fall or the fore part of winter, and then drawn and put into small stacks, there will be little doubt of their keeping the stock in good condition. Let farmers substitute the corn for the hay crop, keep more stock, and use the greater part of the corn for fattening cattle and sheep. This will enable them to increase largely their amount of manure; for the more manure, the more corn, and the larger crops of corn, the more stock can be kept and fatted: and they will soon find their farms growing richer, and that the hay crop is the dearest crop a man can raise, for the purpose of feeding cattle, horses or sheep.

*Newfane, Niagara Co., N. Y.* C. C. WILSON.

## GOOD HOGS.

"What is the best breed or breeds of hogs for general purposes?"

ONE of my neighbors (JOHN SKAATS) has made some very successful experiments in regard to the best breeds of swine for making good and cheap pork. By a cross of the Suffolk and Byfield, nearly equal, I believe, he succeeds in bringing *ten months pigs* up to four hundred lbs., and sometimes over. Having watched for "brag" porkers in the papers, I have read of none that, age for age, would weigh down his.* ‡‡ L. S. ‡‡

*Attica, N. Y,*

* This is the only essay received on this subject, and, though not as full as we could desire, we award it the prize in hope that it may call out further information. COM.

## WAGON TIRES.

Would not a wagon with a tire four or five inches wide be better for farm purposes than the one now in use?

We are a progressive people—"*Onward, onward*—something *new* and *better*—more labor-saving," is the motto of this generation. The great changes our many valuable agricultural journals have wrought in the various operations of the farm, within a few short years, are plainly to be seen. A higher standard for improvement than ever, is now before us. "Slip-shod" farming is among the things that were. Out-door hay stacks, and "little hay barns," with shivering, bow-backed specimens of four-footed creatures, standing grouped about, are becoming each year more scarce; and the one neat, well-battened barn, with its large, comfortable basement, now holds those same specimens—glossy-haired and soft-handlers, so that one would fail to recognize them. The manure of each year, from the same farm, is yearly increasing in quantity and value, by this new order of things. More time and labor must necessarily be given to the disposal of this increasing mine of wealth from our barn-yard, and replacing it with the raw material—dry leaves, saw-dust, muck, etc. The greater the ease and convenience with which we can make this exchange, so much the less is the cost of our farming operations to foot up for the year. This is a matter that must attract the attention of every farmer who follows his occupation for profit. A sleigh in summer is not available. Our common, high-wheeled, narrow-tired wagon, for farm purposes, is using unprofitably the strength of ourselves and our teams. In place of it, I would recommend a low-wheeled, broad-tired vehicle, as follows: If you have a strong, heavy lumber wagon—like my own, for instance, one of "Barry's best"—and do not wish another, procure a set of wheels, (it will probably be necessary now to have them made to order; but I prophesy that in a few years they can be procured at any first-class establishment,) with hubs to fit your axletrees—front wheels about two feet six inches high, and hind ones three feet, (or larger if you wish,) with felloes and tires *six inches wide*. The tire need not be very thick, as the great width will carry strength sufficient; for it is not to be supposed that such a wagon will be often driven over rough roads at a "2.40 gait." For driving any distance on the roads, change the wheels to the high, narrow-tired ones, if you prefer. The advantages of the low, broad-tired wheels are: for side-hill work, less liable to overturn; for drawing hay or grain, the labor of pitching on a load is lessened materially; the small stones left set upon edge by the "cutting in" of a narrow wheel, are left flat, as though a roller had run over the ground; the surface still left, without more extra labor, smooth for the "mower;" another reason—and who, that has ever drove a "mower," has not been tempted to s——blow, as he "bobbed" over the ruts left by the wagon the last spring.

But the great and most desirable feature of the whole, is in drawing manure in early spring, or wet weather, over the meadow. While the narrow tire and felloes "go out of sight," the broad tire rolls over the green sward, scarcely leaving a trace of its onward progress. The advantage in loading stone, wood, logs, etc., upon a wagon of this height, is obvious to any practical man. For very steep side-hills, I would recommend a new gearing: making the axles each two feet longer—leaving box and bolsters the same width, if preferred. A fair truck, for light purposes, may be made cheaply by using a good quality of oak plank for wheels, two and a half inches thick—using two thicknesses, pinned together, with the grain of the wood at right angles, thus breaking the joints and strengthening it materially—and using heavy band iron for tire. But this, of course, will not compare with a regularly constructed spoke wheel.

JOSEPH JULIAND, 2D.

*Bainbridge, N. Y.*

## WATER FOR STOCK.

"On the necessity of a regular and abundant supply of water for stock at all seasons."

The importance of an abundant supply of water for stock is about the same as that of food. An animal subjected to hard labor, should be regularly fed two or three times a day, and not at short and irregular intervals; as the process of digestion occupies a considerable time, and, after that, the the stomach and digestive functions need time for relaxation, and to reproduce the needed stimulus of gastric juice for another task. It needs drink, first, to dilute the food, that it may be more easily acted on by the gastric fluid; second, to maintain an equilibrium of the fluids of the system, and to counteract the continual exhalation and waste of moisture, caused by the action of the elements, the wear and tear of the vital process, and of labor. This should be supplied as needed; and the desire of the animal is a sure guide, as the sense of thirst is the result of a want of fluids in the system. It will be seen that this want of the system is very variable, and is influenced by various circumstances. It is reported, as the result of actual experiment, that a man who was at work in a glass-factory, was found to have lost in weight five pounds in one hour, by exhalation, which was a direct tax on the fluids of the system, and must be supplied or restored again by drinks. Now, this is the effect of labor, exercise, the action of the sun's rays, of the atmosphere, respiration, or of vital action in all animals. There are various opinions as to the importance of taking drinks with food, among humans; but whichever is right in this case, is of no importance with animals, guided by natural appetites, unrestrained.

Drink is a necessity of animal life, as well as food; and nature is a sure guide as to its frequency. For stock running at large, and especially in the heat of summer, it should always be at hand, in abundance, that the animal may take just what is needed, rather than an overdraught at long intervals. On clear days, when the heat is oppressive, they will need it much more frequently and in greater abundance than in cloudy or cool weather. In winter, the demand is not so great, but it should then be constantly on hand, that it may be taken in small quantities, to prevent the too rapid reduction of heat consequent on an overdraught. In this way, stock may be kept in better flesh, with the same food, and be less exposed to attacks of disease from colds, besides enjoying more the comforts of life.

R. G. NYE.

*Galesburg, Ills.*

### WHITE SPECKS IN BUTTER.

In reading the November number of the *Farmer*, I see in your request for essays, one which will find a response from the ladies, namely: "What is the cause of, and best remedy for, white specks in butter?" In answer, I will give my opinion, from an experience for many years in butter-making. I have found whenever a current of air has come directly upon the milk, that the cream would become hardened in small specks on the surface, which the process of churning would not break, and they would become incorporated in the butter. In windy weather, these particles are the most quickly formed.

My remedy for this defect, is not to allow a draught of air direct upon the milk, nor to allow the milk to stand so long that the action of the atmosphere will harden the cream; but to skim it as soon as sour, and, if possible, before the milk thickens. A tablespoonful of salt is thrown into a jar,—which is kept in a cool place—into which the cream is put, and briskly stirred, whenever cream is put in, with a stick kept in the jar for that use, till sufficient is accumulated for churning. The cream is put into the churn, after it has been well soaked in warm or cold water, as the weather admits; adding to the cream a quart or two of new or sweet milk, which, in cold weather, is heated sufficiently to warm the cream. This obviates the necessity of standing the churn in a warm corner until the cream is at a proper temperature for churning, and the addition of the milk thins the cream, so that when the butter forms it will be perfectly clear. Sometimes, when the buttermilk begins to separate, water is thrown in, a little at a time, but never when sufficient sweet milk has been added before churning. The churning is always done in a short time. Butter that is put down for market, should have as little water used about it as possible.

When I observe these rules, I always have solid, golden-colored butter, free from white specks, which, when properly packed, with all the buttermilk worked out, will keep sweet as long as you may desire, and be fit for the daintiest palate.

*Westport, Essex Co., N. Y.* HARRIET B. NEWELL.

### VETCHES AND TARES.

**On the best method of cultivating and feeding out Vetches or Tares, and can they be profitably grown in this climate?**

In cultivating tares, we look upon them as a green or fallow crop, and sow them in the same field with our root and green crops. In preparing land for the tares, we think the best method is to manure the ground in the fall, and plow it carefully down. If not plowed in the fall, it ought to be plowed early in the spring. Then, as soon as the ground is fit to work, we go over it with a cultivator, making a nice mellow seed bed, and then sow the tares at the rate of about two bushels per acre. Where the crop is sown for soiling, it is well to sow early, and about half a bushel of oats mixed with the tares. The oats will, in a measure, prevent the tares from lodging, and will consequently keep them from dust and other impurities; as when the season is damp, the tares are apt to lie down and mildew. In that case, stock do not eat them as well. A top dressing of plaster or ashes, when the plants begin to make their appearance above the ground, will promote an early growth. If any of the tares are intended for seed, the plaster had better be omitted; as on rich soils, they grow too much to vines, if plastered. If wanted in large quantities for soiling, they should be sown at intervals of from ten days to a fortnight, so that they may be fed to stock when they are in their greatest perfection—that is, from the time the blossoms begin to appear till the seed is fully formed.

The principal uses of tares are for soiling, feeding in the house to working horses at noon during the season of summer fallowing, or while working them in mowing and reaping machines, drawing in grain, or any busy season, when they have not time to fill themselves on our short summer pastures. They are also useful to feed to milch cows, causing them to give abundance of rich milk, and consequently the finest butter. Young calves do well on them; and even store pigs thrive on them, after the pods begin to fill. Tares are best cut as wanted; or at most, no more ought to be cut at once than can be used in the course of the day. Every farmer should sow a small portion of his farm with tares or vetches, as a soiling and feeding crop; as he would by this means be provided, in the months of July and August, with a most valuable stock of green provender to feed his cattle and horses, when, in all probability, the pasturage will be short, owing to the influence of heat and drought.

Tares seem to grow as well in this climate as in Great Britain; the only difference that we can see is, that here, in most cases, they will only cut once, unless the season proves wet—in which case we have cut them a second time. There are many varieties of tares; that commonly cultivated here is named *vicia sativa*. In England, they sow a fall or winter variety, which we have never tried here.

*Cobourg, C. W.* W. R.

### WOOD LAND.

**"How much timber should be reserved on a fifty, seventy-five, or one hundred acre farm for use?"**

Being a resident of one of the finest wooded sections of country that I have ever seen, it has been a source of sorrow and regret to me to see the wanton destruction of a great deal of our valuable timber; and if we continue our present wholesale mode of destruction, timber will in a few years be as scarce in Canada as in the middle of an Illinois prairie, and we have no substitute to use for fuel during our long winters. On mentioning the subject to others who, in most other cases, are careful and enlightened men, their answer has in general been, "I have plenty to last me while I live." Others have answered, "There is more timber in the country than we will ever use;" shutting their eyes, as it were, to the fact that their own homesteads and their immediate vicinity has been settled inside of perhaps twenty years; and the timber is already so scarce that they will perhaps have enough to last out their lives, leaving bare fields and no timber, for either fuel or fencing purposes, for their posterity.

As we are all possessed of one hundred acre lots here, I have often viewed with regret the quantity of timber-land which each man in his judgment has left for the future; some leaving ten, and some fifteen acres,—which would not be so bad, but, not

having used forethought during the time they were clearing the rest of their land, they find when they have done clearing, that what is left is of little value, all the best having been culled out.

Considering that my neighbors' plans, or rather no plans, were erroneous, when I commenced clearing, I set apart twenty acres for woodland on one corner of my lot. I would keep my woodland in as square a form as possible, as the storms have less effect in overturning the larger and more valuable trees when in a compact form, than when it is stretched out in a long, narrow strip. I consider twenty acres of woodland sufficient on a one hundred acre farm, if managed in a judicious manner. My plan would be, to make use of all the fallen timber first, then the dead and unsightly, and lastly the overgrown trees. The benefit of this plan would be, the rendering of the woodland more open and roomy; thus allowing a greater chance of growth to the young and thrifty trees. If a much less quantity than twenty acres is retained out of the original forest, the wind will have such force upon it as to overthrow the most valuable of the timber. I have remarked in all small lots, after the larger timber has been either blown down or otherwise removed, a very inferior growth of young timber, it being always stunted and bushy. These difficulties, I believe, will be overcome by keeping a twenty acre lot, and by judicious thinning of the timber, as recommended above. It will beautify and ornament the place, and be of lasting benefit to our posterity. A. B. C.

*Township of Amaranth, C. W.*

## RECREATIONS AND AMUSEMENTS FOR FARMERS AND THEIR FAMILIES.

No people need more and better recreations than the farming community, and no community should be more careful to have their amusements directed in the proper channel. Recreations and amusements lay the foundation of the character, in too many instances. Amusements often occupy the mind for a considerable time afterward. If our amusements are of a character that may, under extreme circumstances, run into unlawful and unholy channels, the mind will also occupy the same ground, and lead us into corrupt and dissipated habits. If our amusements are of that character which would be likely to cultivate our physical and mental powers, they would not lead us into indolence, carelessness, or dissipation. However, recreations and amusements are creatures of circumstances. What would be a recreation at one time, would be a tax at another, and what would be amusement at one time, would be annoyance at another. Much depends on the state of the mind and feelings. Still, certain amusements may become habitual by careful training.

Parents, and farmers in particular, should select amusements which will lead the mind into the channel of their pursuits in life; participating freely themselves, and manifesting great pleasure in so doing. Amusements that would call the mind from home, or estrange it from its occupation, should not be introduced. Agriculturists should adopt such amusements as would teach lessons of economy, frugality, industry, ambition, fortitude, manliness, truthfulness, humanity, love, etc.; and never indulge or countenance an amusement which begets weakness or imbecility of mind. Let every recreation contribute to elevate the mind, rather than reduce it below its every-day standard. Recreations and amusements are useful, if wisely employed. If not, they become traps and snares to the youthful mind.

As agriculture is the highest and most laudable calling to which man can aspire, it is safe to direct the youthful mind into that channel. This has no baneful influence on any other pursuit, and of all men, farmers have the means and opportunities to offer amusements and recreations to their families, of the most ennobling character. Farmers' sons can be indulged in yoking and breaking steer calves, and at the same time cultivate a taste for good oxen. They can have a piece of ground to cultivate, and make a recreation of the labor it requires. They may be indulged with a sled, cart, etc, and be taught order and system with them. Their daughters may be indulged with dolls, dishes, etc., to teach them order and system. They should be indulged in having their knitting, sewing, washing, ironing, mending, cooking, etc., and be under the superintendence of the mother or elder sister, who should instruct and encourage them. Farmers' families should observe all the holidays, and be particular in making them interesting, by entering into the merits of them with energy and feeling. A suitable daughter should be mistress of the feast, and the family treated as guests. The son should wait on the table with all the politeness he is master of, and the conversation of all should be that of a visiting party. On another day, some others of the family to be *actors*. Each member of the family should have their trees, flowers, and green-house plants to cultivate. Some inducement should be held out in each department of work, so that those who perform it may feel interested. This takes from labor its sharp, servile edge. A farmer can easily infuse a deep interest into his family in all branches of his business. He can make himself useful and happy in participating in all their amusements. Singing should be practiced at set times by the family. Girls and boys should mingle in skating, ball-playing, kite-flying, etc. Make all the leisure time interesting in the family, and few will want to go from home for a recess.

Farmers should make themselves particularly interesting to their family, so that their presence would be agreeable, under all circumstances. Dispense with all austere, harsh and arbitrary language and habits. Teach the family to speak kindly to each other, act genteelly, and to be courteous to each other in all their intercourse and amusements. Teach them, in kindness, the impropriety of a foolish pride, the silly appearance of gaudy trappings and extravagant decorations. Teach them to be above all indolent, base, demoralizing, and silly fashions; and you will shun many extravagant, foolish, and pernicious amusements. Make all the work and duties go off with a zest; keeping up good appearances, preserving a cheerful and tranquil state of mind, and sympathize freely with each member, be their conditions what they may. Keep up this condition of affairs at home, and recreations and amusements will be little called for, and less sought after. You will have no dissipated or absconded sons, no abandoned daughters, or heart-broken wives. W. PIERCE.

*Ravenna, Ohio.*

## HUNTING WILD BEES.

"The best method of hunting Wild Bees; together with the tools used, etc."

Hunting wild bees is something of a trade; and, as I have worked a little at it, I will describe my method of doing the thing, and the tools with which I work. And first, the tools: I have a box made of thin pine boards (lath will do,) eight inches long, four inches wide, and three inches deep, with a loose cover. In one side of the box, at the top, and half way the length, I cut a triangular hole, each side of which is one-fourth of an inch, so that I can cover it with the end of my middle finger, when carrying the box. In this box I fit a piece of old, sound, dry honey-comb, (such as has been used by the bees for brood-comb,) so tight that it will not fall out if the box is turned upside down. Next, I prepare a "stand," by taking a piece of sapling, one and a half inches in diameter and five feet long, and after cutting the butt off square, I split into quarters about a foot, and insert some pieces of wood at the bottom of the splits, so as to hold them open about three inches at their ends, for the box to stand on; then sharpen the top end, so that it can be stuck into the ground. I use a piece of an old, broken dinner pot, or other cast iron vessel, about six inches in diameter, to burn comb on to "raise the bees," if I can find none on the flowers, or if it is out of season for flowers. These, with an axe, a bottle of honey, and a handle-basket to carry my "traps" in, are all the tools absolutely necessary for bee-hunting; though some carry a pocket telescope, for better seeing the bees.

Now, as to my method of hunting: I reduce my honey a little with water, and put but a little at a time into the comb. In one corner of the box I put a small ball of soft paper, on which I have dropped a drop or two of oil of anise. By no means put any anise into the honey. I catch a single bee in my box, holding my finger over the hole until he is still, and then I set the box on the stand, which I have previously stuck into the ground. Be very careful not to disturb him, by opening the box to look in; for, as soon as he has filled himself, he will come out at the hole, examine the box and premises a little and fly away to his hive. Do not catch another bee, but wait patiently for this to return, which he will do in fifteen or twenty minutes, if he has not been hurt or disturbed. One can hardly ever get a correct line the first time the bee goes. Probably about the second or third time he returns, others will come with him. I never make the first move, until I get three or four bees to coming; then, after getting a correct line, I move as fast as possible, from forty to sixty rods at a time, until I am satisfied I have come to, or passed the tree. If past the tree, look back on the line, or get a cross line. The best way to examine a tree is to stand close to the trunk, and look up it, or look around it, near the outer extremities of the limbs. Bees generally go in at the east or south side of the tree, and sometimes at the west side. I never found a tree where they went in at the north side. If it is out of season for flowers, make a small fire, set over it the piece of iron, and heat it nearly red hot; then take it off and put into it, a little at a time, some broken honey-comb, and burn it. If there are any bees within a hundred rods of you to the leeward of the smoke, they will soon come to you. As soon as you hear one, uncover your box, and he will soon find it. As soon as he goes to work, proceed as before, keeping the box covered. They will soon learn to work through the hole.

Now, about getting the honey—supposing you have found it. Some make a large brush-heap to fall the tree on to, so as not to break it; others "ease it down," by falling it on to another tree that has been partly cut down. I find it the best way to fall the tree as flat on the ground as possible. Have a small fire burning as near where the honey will fall as convenient; and have several large brimstone matches ready. As soon as the tree is down, "go in" and smother and burn the bees as they arise. They will not show fight long, but will rise and go up to where the hive was. Some use small wisps of straw for burning the bees, but it is a slovenly way. In some seasons, I have made bee-hunting quite profitable. A few years since, I cut a pine tree, out of which I took two hundred and thirteen lbs. of honey, weighed in the comb. The same season, I took ninety lbs. of strained honey out of a hemlock; besides several others of thirty or forty lbs. each. From forty to sixty lbs. is considered a fair yield.

*N. Almond N. Y.* WM. HOWE.

## DWARF PEAR TREES.

On the best treatment of Dwarf Pear Trees, which were set out a few years ago, and have been neglected.

The neglect which orchards receive after planting, in all parts of the country, is of various kinds; in fact, in many cases neglect is coincident with every act of the planter. Trees are purchased, very generally, without the least preparation having been previously made for their reception—even the site they are to occupy has never been considered; consequently, they are planted where it is most convenient for the time, which, frequently, is quite unadapted to the purpose.

A suitable soil having been selected for the orchard—and experience has proved that a good limestone or wheat soil is the most preferable, although the dwarf pear tree will adapt itself to a wide range—the next consideration, and of the first importance, is the drainage. How many who read these lines, that have planted orchards, can say they have not neglected them in this particular? How few orchards there are that would not be improved by thorough drainage! It must be insisted upon, and talked about, and line must be written upon line, and precept upon precept, until it shall be thoroughly comprehended and settled, as an elementary principle, that good drainage, in nearly all soils and for all crops, and especially for orchards, is a condition essential to economical production.

Deep plowing, for orchards, is seldom attended to; and the trees are compelled to obtain their sustenance from a few inches of earth, at the surface, which, from a previous exhausting process of tillage, is unable to yield any but a minimum amount of plant food, while a few inches below lies a full store, locked up in the hard earth.

The want of proper pruning of trees, at the time of planting and afterwards, is one of the most common abuses.

The removal of trees, causes necessarily, to a greater or less extent, the injury and loss of part of the roots—which, with the check by moving, renders necessary the reduction of the branches so as to diminish the amount of leaf surface, and, consequently the evaporation — which, until the roots have regained their balance with the top, the tree is unable to bear.

Neglect of annually pruning dwarf pear trees, causes them to make long, weak and disproportionate branches; and often in this state, while quite young, they produce a heavy crop of fruit, altogether too much for their age—resulting in a permanent injury to the trees.

Grass and grain crops are often grown in orchards until the trees are starved to death. This is indeed one of the most common, as it is one of the most pernicious, of errors, and is to be met with in almost every neighborhood. Not only are old orchards seeded down, but this is often the next step after planting; and not unfrequently, even, the trees are planted in meadows, without any care being taken for them.

Various other forms of neglect which young trees receive might be mentioned—such as improper planting, want of manuring, inattention to insects, and many others, which it is not necessary to specify.

The best treatment for a neglected orchard of dwarf pear trees, must depend somewhat on the circumstances of the particular case. If the trees are much stunted, distorted or diseased, it would undoubtedly be the wise course to dig them up at once, and commit them to the brush-heap.

Should the orchard, however, have been neglected but a short time, and the trees appear to be comparatively healthy, look first to the drainage; if this is wanting or is insufficient, set to work until every inch of the soil is effectually drained—not with open ditches, to carry off suface water merely, but with good, substantial stone, or what is better, tile drains, from three to four feet deep. Then put in the plows one after the other, two or three, or by going two or three times in each furrow, with a strong team, and break up the soil at least eighteen inches deep; you need not be afraid of plowing at least within a few feet of the trees, for dwarf pear trees, in the condition we are assuming, will not have extended their roots far. How close, however, the plow may come, is to be determined by observation; the digging fork will do what is left by the plow. These operations being completed, let a good coat of well-rotted stable manure be spread upon the surface and lightly plowed in.

The pruning-knife is next called into requisition; but it is impossible to give any but the most general directions for its use in this case; the experienced hand would undoubtedly cut much closer than the novice. The form and habit of each tree must be considered—the weak and ill-shaped must be pruned close and severely, while the stronger may be formed into good shape, and allowed to carry more wood.

The cropping of the orchard ground should be confined to beans, peas, and such other crops as draw lightly on the soil, or be entirely dispensed with—in which case the ground should be cultivated regularly every two or three weeks during the summer season. Too much labor or care can scarcely be expended on a fruit which is so generous and grateful for favors, and whose pecuniary value is so great.

## BEST METHOD OF RENOVATING OLD ORCHARDS.

An orchard that has been rightly managed and is termed *old* from age of trees, might better be replaced by young ones; but there are many orchards that have the appearance of age—a consequence arising from mismanagement; such trees can be renovated. Often, there are trees in the same plot, and side by side—the one healthy and strong, the other its opposite. On examination, we find a sad bruise, of the plow or otherwise, in cultivating; just above the ground a perfect nest of grubs; a thousand and one ant-hills, and many other sources of decay. Ask the owner why his trees look so yellow, or the fruit so knotty, and he tells you he knows not—merely because he has not examined. A tree that is not worth *some* attention, soon will show it is not worth picking. There are many methods of renewing a tree or trees, causing them to produce, and even bring life and vigor anew to a tree in rapid decay. I remember one tree in father's orchard, that was *grubbed* full two-thirds around; a boy's weight in the top would sway it to and fro as he willed. We grafted it to *Baldwins*, and in four years after it was, and still is, as firm, as productive and healthy, as any tree. This may be an isolated case, but I believe grafting a great benefit.

My method of renovation would be to plow the ground—not so deep as to cut too many fibrous roots, nor so near as to bruise the body. Then, with a grub-hoe clean away everything from the body, and examine minutely for worms, and *kill every one;* manuring heavy with good materials; trim thoroughly all decaying and unsightly branches; graft, if necessary. Continue this course for two or three seasons, and the moss will have no place to cling. You can point a tree grub-eaten, or grass-bound, by the appearance of its leaves—yellow and small. Hogs are profitable laborers in an orchard (except in wet weather); they will destroy myriads of unborn pests—all fruits that fall prematurely are full of them. Every orchard should be the range of the hog, and no other animal, in my opinion. An orchard is far better to be cultivated, cropped or not. I am aware of advocates for non-cultivation; I can not make it pay.

We seeded with *Timothy*, and it laid three years. The third year's produce was yellow leaves and wormy fruit. I would not seed with anything but clover, if at all, and let it lie but a year or two at most. Spare your trees if possible; it is often easier to save a tree than grow one. Save what you have, and plant more; others planted for you—serve them likewise.

Frequent stirring the soil — liberal use of *good* manures—obtaining the choicest varieties—frequent use of the saw (not your axe,) and knife—great care in gathering, as to time, manner and storing—and your long winter evenings will have one guest in constant attendance; the basket of fruit is ever there, a temptation not to be resisted by any, even your most obliging reader of the *Genesee Farmer*,

W.

## APPLE TREES AROUND THE FARM.

"If apple trees are set *around* a farm, instead of in a compact body, would they not be more productive, on account of air, light, heat, etc.? Would the plan of setting *around* the farm, everything being equal, be advisable?"

The advantages of setting apple trees around a farm, instead of in a compact body, I think, would be more than counteracted by several disadvantages. If it were shown that trees, placed at proper intervals, in a compact form, lack air, light and heat, there are other conditions which seem to be important: such as protection, soil and exposure, which would have to be sacrificed considerably for the other advantages.

1st. The site for an orchard is of considerable importance, not only as a matter of convenience, but for the health and productiveness of the trees. If *air* is considered an important thing, give them an elevated position. In this way, I think, all the benefits of a free circulation of air might be gained. But I do not remember having heard that urged as a main cause of unfruitfulness, except, perhaps, in case of late spring frosts. Then, an elevated position affords all the chances of success that could be derived from setting around a farm. About the same may be said of *light* and *heat*. Trees may be so near together, with heavy tops, as to shade each other a portion of the day; but at suitable distances, the slight shading could hardly be thought injurious. If so, the trees on the outer edge of an orchard ought, always, to bear the best crops, which, I believe, has not been generally observed. The heat of summer is required only in moderation to perfect apples; and a temperate climate is better adapted for the purpose than one of greater heat; and in the dry, hot summers which we often have, there could be no advantage in having our trees set in the hard borders of the farm, especially along the highways, their leaves being fanned by clouds of dust. But, on the contrary, *mildness* is requisite to success, and the slight protection which trees give to each other is believed to be beneficial.

"Would the plan of setting trees around the farm, everything being equal, be advisable?" Now, it is pretty generally allowed that *nearly* all things are *unequal;* and it would be rather difficult to make the two conditions of setting trees equal in all things. If they were, there would be no chance for argument, or choice in the two modes. The choice being in the difference of conditions, we will proceed to examine them.

The border of the farm would be wholly unsuitable for apple trees until they were at least ten years old, unless fenced and cultivated completely on both sides of the row of trees. It is well known that small trees will do nothing but die, when set in grass-land, and but rather poorly among small grain—as wheat and oats. Then, if the farm was divided into pasture, meadow, and for various kinds of grain, there would be no use in setting apple trees in such a place. The border of the farm, along the cultivated fields, is generally waste land, to turn around on in plowing and cultivating; and small trees would not only be in the way, but would be in the hardest ground, and most unsuitable on the farm. Any farmer planting trees in such places, should look for fruit in very small quantities, and after long vigils. Then, trees in the border would be more exposed to winds, and would be more likely to be blown down; and also to be killed by the severe cold or changeable weather of winter, and be less convenient every way, except for apple-*thieves*.

An orchard should be on high, rolling ground, or on ground well drained; and then it should be well cultivated, till the trees are well rooted and growing thriftily.

R. G. NYE.

*Galesburg, Ills.*

## BEST FRUIT FOR MARKET PURPOSES.

"What are the best six varieties of pears, most valuable for the market, or general cultivation; also, six varieties of apples for like purpose; naming the varieties of pear and apple in the order in which they should stand for their respective merit; and which varieties of the pear enumerated are the best adapted for the pear, and which for the quince root?"

After hearing and reading all that has been said and written on this subject for the last ten years, and carefully noting the experience of producers and dealers as to the demand of the markets and consumers, but little hesitation need be felt in naming the best six varieties of pears and apples, *for market*. As to the order in which they should be named for their respective merit, a good deal of difference will undoubtedly be found expressed. For general marketing and cultivation, I think the pears should be named as follows: *Bartlett, White Doyenne* (or *Virgalieu*), *Louise Bonne de Jersey, Duchesse d' Angouleme, Vicar of Winkfield*, and *Easter Beurre*. Perhaps the *Seckel* might be substituted for one of the last two; but as these are the only winter pears they had better be retained, as the market demand must be supplied in winter, as well as in summer. The demand for the above varieties is always greater than the supply, even at the highest prices.

The *Bartlett, White Doyenne*, and *Vicar of Winkfield* succeed well on either pear or quince root, while the other three are best on the quince; indeed, *Louise Bonne de Jersey* and *Easter Beurre* are comparatively worthless on the pear.

In naming the apples, I have no hesitation, as the market demands are uniform. The list is heard in every stall in every city market, at the season when the fruit is in market: *Rhode Island Greening, Esopus Spitzenburgh, Baldwin, Newtown Pippin, Roxbury Russet*, and *Red Astrachan*. If the fruit is to be produced in Western New York, the *Northern Spy* must be substituted for the *Newtown Pippin*. This last apple will always bring a good price; but, unfortunately, it is not universally successful, neither is the *Northern Spy;* but I believe it to be a fact that one of these will grow where the other will not. The *Lady* apple (*Pomme d' Api Rouge*) brings the highest price of any apple in the market, but it is so small that an orchard of that variety will not give so great a cash return for the labor and money invested as the other varieties I have named. Of course, this list may not be right ten years hence, as some of the new varietis which now promise so well, may supplant some of the above kinds. I have yet to see the variety that will drive the *Rhode Island Greening* from the market. This apple always sells well, and so does the *Spitzenburgh*.

D. A. A. NICHOLS.

*Westfield, N. Y.*

### FRUIT GROWERS' SOCIETY OF WESTERN N. Y.

This capital Society held its fifth annual session on the 4th and 5th of January, at the Court House in Rochester. The meeting was one of the largest yet assembled; and the show of apples and pears was one of the finest ever made at this season of the year. The officers were unanimously reëlected as follows:

President—Col. B. HODGE, Buffalo.

Vice-Presidents—J. J. Thomas, Macedon; Wm. B. Smith, Syracuse; W. R. Coppock, Buffalo.

Treasurer—W. P. Townsend, Lockport.

Secretary—C. P. Bissell, Rochester.

The crowded state of our columns will only permit us to give a very brief abstract of the discussions; but the Society will publish a full report of the proceedings, with the President's address, etc., which any person can obtain by enclosing a stamp to the Secretary. The discussions commenced with the question:

"IS THE DWARF PEAR A HUMBUG?"

Mr. Pinney, of Monroe.—There is one sort which is not a humbug. The *Louise Bonne de Jersey* will bear as much fruit on same size of limbs as any other. Has dwarfs, two years old when set, and now eight years old, that are bearing one bushel, one and a half, and even two bushels of pears to the tree. If I set one hundred acres of pears, would set half of them dwarfs of the right sort.

Mr. Townsend, of Niagara.—The *Louise Bonne de Jersey*, taken twenty-five years together, will bear three to one of any other sort I have cultivated as dwarfs. Were I to commence planting pear trees again, I would not plant a standard. Fruit on dwarfs is much larger than on standards; bears earlier. Needs good cultivation.

Mr. Jay, of Yates.—A fruit orchard should be a fruit garden, and that is where most men fail. Trees set in post-holes won't answer.

Mr. Coppock, of Erie.—Endorse all that the members have thus far said. *Vicar of Winkfield* succeeds very finely as a dwarf tree. Spading around trees is injurious: cuts off the fibrous roots which are near the surface.

Mr. Ellwanger, was asked what varieties did not succeed well as dwarfs. Answered—*Beurre Bosc, Sheldon, Dix, Paradise d'Automne* and *Canandaigua*. On the other hand, *Belle Lucrative* is always poor as a standard, and fine as a dwarf.

Mr. Beadle, of Canada.—*Belle Lucrative*, as a dwarf, is invariably fine and large.

Mr. Frost, of Monroe.—*Duchesse d'Angoulem* splendid as dwarf. Trees have, years before this, borne two or three bushels per tree, and this year three and a half bushels.

Mr. Brooks, of Wyoming.—Don't think it is best to send dwarf pear trees out among farmers. Can't by any possibility induce a farmer to run a cultivator through his orchard once in two weeks; no, nor four weeks; no! nor once in two months.

Mr. Smith.—The gentleman might as well advise not to sell Durham cattle to farmers because fine breeds need care, and fine breeds sometimes fail; yet, when cattle are well treated they do well, and when dwarf pear trees are well treated, they also do well.

Mr. Brooks.—Farmers make some things prominent. Farmers will use stock well; but fruit trees are a little on one side. Some gentleman has advised that every farmer have dwarf pear trees in his garden—supposing that in the garden they would be well seen to. Now, what we in our country call a garden, is a place back of the house, where dish-water is thrown; where we have a few hills of potatoes, and several hundred—pig-weeds!

Mr. Ainsworth, of Ontario.—Some time ago, I made remarks against dwarf pears. Have made observations since then, and find that some sorts do remarkably well as dwarfs—better than as standards, both as regards size and flavor of the fruit. *Louise Bonne de Jersey* will yield double the crop on same amount of space on dwarf than on standard; so will *Belle Lucrative*.

The whole secret of raising dwarfs is in the cultivation and pruning. Get the right sorts, and then cultivate and prune thoroughly.

In answer to a question as to profit, Mr. Ellwanger said, that you could cultivate one thousand dwarf pear trees per acre, and if of the right kinds, they will average over a bushel per tree.

Mr. Barry.—A great feature in dwarf pears is the earliness of bearing. Aged people could plant trees and enjoy the fruit. Easily transplanted, and liable to no more accidents or diseases than the standards.

BEST PROTECTIVE OF FRUIT TREES, ETC.

J. J. Thomas.—In parts of the country where the winds are high, great benefit is derived from belts of timber, evergreen hedges, etc.

Mr. Barry.—Our prevailing high winds are from the west, and fruit needs protection in the fall to keep it from being blown off; and the trees need it in winter and spring. As to underdraining, remember that the trees stand all the year round, and in almost any land underdraining will do good. There are plenty of evergreens that will grow three to four feet each year.

Mr. Langworthy thought that board fences, twelve feet high, would be beneficial, and also serve to train grape vines upon.

Mr. Beadle.—In Canada, farmers are beginning to plant trees on the west sides of their farms. Wheat crop is better for them.

Mr. Ainsworth.—Ground sloping towards the east, good crops and seldom killed; but sloping to west, wind strikes hard—snow blown off—poor crops. Here is protection, and the contrary.

GRAPES.

Mr. LANGWORTHY spoke of the crops of *Isabellas* which have left Western New York for the eastern markets; and speaking of some of the new varieties, asked if we could not graft on good, substantial branches upon old vines, and get them to bear the first or second year?

Mr. C. P. BISSELL.—Grafting branches upon old vines during the full flow of sap is a difficult operation; but the old practice called inarching, is a safe way of performing the operation, while the vine of the new variety only loses a bud or two, and is in no way injured.

Mr. HOAG, of Niagara, thought pot plants were as good to buy as layers. In spring of 1856, bought twelve slender *Dianas*, which in 1858 bore forty clusters, and 1859 as many more. Set out *Delawares* in spring of 1858, and they did as finely as layers ever could.

Mr. ELLWANGER.—Has grafted the *Diana* in the open ground as well as the apple, just after the plants have made a fair start in the spring; graft upon a level with the surface of the soil. Heap the soil around, covering all but one bud with earth, and they always succeed.

Mr. AINSWORTH. — Plants from pots have one great advantage over those dug from the ground—that is, all the roots are saved, every fibre, and the plant has no new roots to make—nothing to do but grow. Planted *Delawares* the spring of 1859 from pots, and they grew fifteen feet.

Mr. BISSELL.—In spring of 1859, after sales were over, had over seven hundred *Diana* grape vines left standing in pots. Turned them all out into the nursery rows without losing one single plant, and some of those vines bore fruit that summer.

Mr. MAXWELL.—Had rather have good one-year old plants in pots than stout layers, as layers are usually taken up. Layers have not one-tenth as much root as pot plants—fine, fibrous roots.

Mr. LANGWORTHY.—Wait until the sap has run pretty well in spring, and it is not so very difficult to graft, and have the scion bear in two years. The first *Clinton* Grape that came to this county I grafted in that way.

Mr. PECK, of Ontario.—Strongly approve of covering even *Isabella* vines with a little earth each winter. A neighbor, who had one thousand vines set in 1856, and sheltered by woods on west and north, got three thousand lbs. for the crop of 1859.

Mr. BEADLE.—Had tried experiments with parallel rows in the vineyard. Those lightly covered with earth were twenty per cent. better crop than those merely laid down, and far better than those left tied up. Plants four feet apart in the row, and rows eight feet apart, and averages fifteen pounds of grapes per vine.

Mr. AINSWORTH.—Neighbors all think it pays to lay down the vines and cover with earth. Should practice pruning on the renewal system.

Mr. BARRY.—Had some vines growing on the end of his house, eastern exposure — *Delaware*, growth remarkably vigorous: fifteen to eighteen feet per vine.

Mr. H. B. MINER.—Never had a ripe *Isabella* or *Catawba* on an open trellis. On south or east side of house both get ripe. *Diana* will ripen finely with me on an open trellis.

Mr. HOAG.—A neighbor ripened his fruit at Lockport, and sold eleven hundred lbs. for twenty-two cents per lb. If you want a vine to grow and bear well, you must prune thoroughly.

Here a member opposed the severe pruning, and told about a vine which had been let grow without pruning; one year the frost killed it back to a mere stump, whence it sent up some very thrifty branches, which were not pruned at all, and bore 2500 bunches of grapes.

Mr. THOMAS thought that the gentleman's argument against pruning was the strongest one in its favor he had ever heard. What caused the very thrifty growth and the large crop of fruit? It was the severe pruning which the frost gave to the vine, and all the vine wanted now was another frost.

Mr. BROOKS appealed to farmers to attend more to the culture of the grape; wished the cultivation of all fruit might be extended, and even of—(hesitating,) dwarf pears. (Great laughter.)

COMPARATIVE MERITS, ETC.

Mr. BROOKS.—The time will come when every man—when every holder of land—shall be considered disgraced, if he does not supply his family with such luxuries as we see here before us (waving his hand to the seven long tables loaded with pears and apples), and they are the greatest under heaven.

Mr. BARRY.—Near market, small fruits are most profitable. At a distance, where fruit must be barreled, apples and pears are better. In Niagara county, the estimated value of the apple crop of 1859 was $500,000. Just think of pears, in New York, selling at $18 and $20 per barrel. To skillful cultivators, with good soil, all things considered, the pear offers the greatest inducements. The pear crop is uniformly more certain than the apple, and there is hardly a farm crop as sure as the apple. Potato? let the rot answer. Wheat? it has almost been driven from Western New York. Corn? Oats?

If a pear tree or two dies, just fill up the rows from a reserve which every farmer should have on hand, in a little nursery of his own.

Mr. TOWNSEND.—Western New York will become the home of the pear in the United States, and here it is raised in perfection. Would not recommend a man to plant trees unless he meant to take care of them.

Mr. W. B. SMITH.—Years ago, pears would only bring seventy-five cents or one dollar per bushel. Now, the public taste has been educated to fine fruit, and the same will bring four dollars per bushel. Would not care to plant any but dwarfs.

Mr. HODGE.—The fact is, that half the people of the United States never yet saw a good pear. Now they see and taste such fruit as loads these tables before us, and they are willing to pay for it. Such fruit as we here see can be raised by any one who will cultivate properly and carefully.

Mr. BROOKS spoke of three *Baldwin* apple trees which each year bore six to eight barrels of apples, selling at three dollars per barrel. Each tree yielded a greater net profit than the average acre of land in Wyoming county. If market is glutted, give them to the horses—to the cattle—to the hogs—to the hens; there is nothing that lives, *or ought to live*, will refuse a good apple.

Mr. AINSWORTH.—The net profits of apple crop will average five times as much per year as a wheat crop. Pears bear regularly every year. You can set one hundred and sixty standard pear trees to the acre, and only forty apple trees. Standards bear as early as apples, and bring four dollars per bushel, while apples only bring about one dollar. Certainly, the pear crop, at present prices and prospect of prices, is six to eight times as profitable per acre as the apple. The great secret of success is good tillage and proper pruning.

Mr. BARRY.—It was folly to suppose that all the land in Western New York was going to be devoted to pear culture. Pears need suitable soil and skilful culture. Not a farm in Western New York of which half was adapted to pear culture. Pear culture will not start up as if by magic; but farmers will one by one go into it as fast as they get the requisite information.

WHAT IS THE BEST MANNER OF PREPARING GROUND FOR ORCHARDS?

Mr. SMITH.—1st. Thorough underdraining, especially if strong soil.

2d. Subsoil at least twenty inches deep.

3d. Make it rich enough to be suitable for corn.

Mr. YEOMANS.—Underdraining is one of the best investments which a man can make before planting his orchard. Before you plant the trees, cut off all the branches. The tree will form new and strong branches, and the wind meanwhile will sway it less. Apples should be pruned so as to leave no branches lower than five feet from the ground.

Mr. FISH spoke of planting an orchard; part of the trees he cut off the whole top eighteen inches above ground, and the rest only cut off part of the top. Those from which he cut off the entire top made the most rapid growth and the handsomest trees altogether.

Mr. PECK had tried all the ways of pruning, but never saw trees as fine as Mr. YEOMANS'; fancied Mr. YEOMANS' five feet pruning better than any other plan.

Mr. LANGWORTHY strongly advised against plowing in an orchard. Never plowed among trees but he heard the roots crack. Nothing heavier than a cultivator should be used in stirring the ground.

WHAT IS THE MOST SUITABLE AGE FOR PLANTING FRUIT TREES?

Mr. HODGE.—Peach trees should not be more than one year from the bud, and then the borer is not brought with the trees.

Cherry trees, two years from bud, and four to six feet high.

Dwarf pear, two years from bud. Standard pear, four to six feet high.

Apple, three or four years from graft; about six feet high—not to exceed seven feet high.

Mr. GLEN, of the firm of H. E. HOOKER & Co., was loudly called for, and agreed with Mr. HODGE. With small trees we get all the spongioles—all the fibres—all the small roots, which really do the nourishing of the tree.

We have not given anything like a full report of the very interesting remarks of the gentlemen, nor have our limits permitted us to even mention all the subjects discussed.

A Committee reported appropriate preamble and resolutions relative to the recent death of DAVID THOMAS, the distinguished horticulturist, the eminent botanist, and the Christian gentleman.

The thanks of the Society were voted to the officers for their gratuitous services, and to the exhibitors of fruits—who, by showing about sixty sorts of pears, and over sixty varieties of apples, on our tables, shared with us their experience, and encouraged all in the good work.

The next meeting of the Society will be held at Buffalo.

## INJURY TO APPLE TREES AT THE WEST.

EDS. GENESEE FARMER:—I noticed in the September No. of the *Genesee Farmer*, for 1859, a communication from ABRAHAM BAER, Jr., of Pipestown, Berrien Co., Michigan, on the destruction of apple trees in Ohio and Indiana. He observes that, as far as he had traveled in those States, orchards were on the decline, that many trees were already dead, and most of them were then in a diseased state; indeed, he saw but few healthy trees wherever he went. This is a melancholy fact; but he does not fully describe the disease by which the trees were being destroyed.

He states that the attack is always made on the southwest side of the tree. This is is generally the case. A dead spot will appear near the ground, extending one-third, one-half, and even two-thirds of the way around the tree, and more or less up and down the body. The bark will finally come off, and one might suppose that it had been peeled or rubbed off. The tree may still live several years and bear fruit; even until the dead spot becomes sufficiently decayed to admit of its being broken by the wind. The branches are sometimes similarly affected.

Mr. BAER states "that bad culture, or no culture rather, has much to do with such cases." He must allow me to dissent from him here. I would, reluctantly however, advocate bad culture even of the apple tree, and even in the central part of northern Indiana, where, it is presumed, this mortality is the most alarming, as it is the opinion of many that the best cultivated trees—trees of the most excited, vigorous growth—are the most liable to this injury. Injury I must call it, for it is thought by some that it is produced by freezing; but this can not be effected until the tree has been partially invigorated, the sap started, and the bark loosened by the warm rays of the sun, which probably takes place in February or the fore part of March. If this idea is correct (and it appears plausible to me), it would probably suggest the preventive of placing a shade before them. I have, I think, preserved my trees to some extent by merely placing a board up by each one, and tying it to the body; but I am not fully satisfied on the subject, as I have not been persevering in the experiment. Some have proposed to wrap them with straw, or some other suitable substance. This would probably answer a good purpose, but I have not known of anything being done in the way of protection, save my own feeble efforts. I have heard the boys talk about

the sap-suckers, and tell how they kill the apple trees; but I agree with Mr. BARR, by saying that I deem it almost an absurdity to suppose that they commit these depredations. LORENZO DOUD.

*Chili, Miami Co., Indiana, December, 1859.*

WE would suggest, as worthy of trial, white-washing the trunks of the trees, for the purpose of reflecting the rays of the sun. EDS.

## GRAFTING GRAPE VINES.

EDS. GENESEE FARMER:—In view of the daily increasing interest felt in the culture of the grape vine, I beg leave to offer a few observations on grafting *Isabellas*, *Catawbas* or *Clintons*, with new and more valuable kinds.

Fig. 1. STOCK. Fig. 2. BUD. Fig. 3. BUD IN PLACE PREVIOUS TO BEING WOUND.

Some cultivators have recommended inarching or grafting by approach, which has the advantage of being simple—consisting merely of shaving a little bark and wood from the stock to be grafted, and bringing a branch of another kind, after taking a little bark and wood from it, and fitting the two together. Tongueing is an improvement on this system. But I think most practical men will admit that it is imperfect at best; besides, very few people have the kind desired growing near the one to be grafted.

Again, some recommend cutting the vines down and cleft grafting them, which is done by splitting the stocks with a chisel, and inserting the scion in the form of a wedge. This answers well in some cases; but if the grafts should fail, you lose your crop of fruit entirely for that season.

What I propose to show is, that a person of limited skill can, if he possesses a large vine, graft half a dozen or more varieties on the same plant, or renew it entirely, as the case may be, without materially injuring the crop of fruit the same season. In the first place, select good sound wood of the previous year's growth, of the kind desired, before the sap is in motion; lay them by in a cool, damp place, till you perceive the buds beginning to swell on the vine to be grafted. Then take one lb. of rosin, one-fourth lb. of tallow and one-fourth lb. of beeswax, and melt in an earthen or tin vessel; next take strips of strong factory, nearly an inch wide, for tying. This done, take your knife, which should be very sharp for the operation, and make a cut downwards about half an inch below the bud intended to be used, and half way through; next enter the blade of the knife half an inch above the bud, and bring it down back of the bud till it forms a junction with the first cut. [*See engravings, Fig.* 2.]

Then select a smooth place on the vine that you intend to operate upon, and adopt precisely the same plan on the stock as you have previously done on the scion, by removing a piece of bark and wood corresponding in size to the bud you intend to insert. Be careful not to cut out too large a piece at first, as you can easily enlarge the cut if found necessary. If the cut should be a little too wide for the bud, as is often the case, be careful to fit one side evenly, as the junction of the liber or inner bark of stock and scion is of the highest importance. Next take two strands of copper wire, of sufficient length to go around and fasten; place one around the lower extremity of the bud where the lip of the stock covers it, and secure it on the side opposite the bud; this done, secure the upper part of the bud in the same way. Then take a strip of the prepared factory, and dip into the composition, which should be about blood-heat, and wind the bud, taking care not to cover it, yet at the same time to render it perfectly air and water tight. To complete the job, dip the finger or a piece of rag in the composition, and fill up any spaces that may be left on the stem of the vine, either above or below the wrapping. It will be necessary to put another strand of wire around the vine, above the bud, to arrest the upward flow of the sap; or what is perhaps better, bend the vine over till the bud has started a few inches; when it has two or more leaves, it has become in a measure self-supporting, and the wrapping and wire can then be taken off, and the vine tied up in its place.

If the graft or grafts are thought of more consequence than the crop of fruit, the head or top of the vine can be reduced at intervals through the summer, as the grafts gain strength, which will help them very materially.

Of the success of this plan of grafting, I can speak in the fullest confidence. Scarcely one in fifty will fail if the above directions are faithfully carried out. If any grafts should fail, inserted in this way, it will be no detriment at all to the vine, which is one great advantage this plan has over cleft grafting. It is a surer way of grafting, because the tendency of the sap being to the upper branches, by this mode it can be checked and forced into this particular bud. This plan is very useful in vineries where the stems have become naked of fruiting spurs. By careful and good management, canes can be obtained in one season from twelve to twenty feet in length, and of proportionate strength.

FRANCIS A. BALLER.

WHITE SPROUTING BROCCOLI.

## WHITE SPROUTING BROCCOLI.

WHATEVER uncertainty may exist concerning the origin of domesticated animals, there is far less obscurity in the case of cultivated plants, the wild states of which, if not positively known, are at least ascertainable with great probability. We know that esculent Carrots come from the wild Carrot in a few generations, because that has been proved experimentally; and we also know, because experience teaches us, that the esculent quality once produced in a Carrot becomes fixed and capable of descent by inheritance. We also know that Nectarines have sprung from Peaches, because we see them appearing occasionally upon trees whose fruit is for the most part Peach. We know that some of the breeds of the garden Chrysanthemums must have come from the common old purple Chrysanthemum, because the first change that took place in England was from it to a buff color, from which by degrees many of the newer forms have been obtained in this country. And if we have not the same absolute certainty as regards other domesticated plants, we are at least furnished with the means of reasoning fairly from the known to the unknown.

In no case has greater doubt been entertained than in what concerns the many races of Cabbages, whose habits have become so fixed, and descent by inheritance so perfect, that cultivators cannot believe that they have all come from one common stock, in the lapse of time, and that stock the wild Cabbage that springs up hard, bitter, and unestable, on the coast of Devonshire and Cornwall. Nor can it be denied that a good deal of experience in the mutation of form is necessary to produce the conviction that Savoys, Coleworts, and Cauliflowers, are descendants of some common parent. No one has seen the wild Cabbage close its leaves and form its solid heart; still less have its straggling flowering branches been seen to become soft, stunted, and blended together into the granular, delicate ball, called a Broccoli or Cauliflower. But although such positive evidence has not been acquired, yet it happens that every now and then a piece of presumptive evidence is obtained, which

is little less important than the most direct. Of this kind an example is before us.

A few years ago, among a crop of white Broccoli, believed to have been the sort called Snow's White, a very valuable, firm, single-headed race, there appeared an individual with a branching stem and a multitude of lateral sprouts, each producing a Broccoli in its own center, as well as the usual one at top of the stem. It was a true branching Broccoli, of the same class as the purple branching, which has of late obtained so high a reputation, but is of better quality, and white. So remarkable a plant could not be overlooked; seed of it was saved and sown: the seedlings were like the parent; more seed was saved, and the seedlings still came true. For four successive years has this been done, and the annexed representation of an individual of the present season, and therefore of the fourth generation, engraved *from a photograph*, will show what the new race has become.

Its quality is, we understand, unexceptionable; its importance as a cropper is manifest, and experience has shown that its habit is fixed. To gardeners it therefore promises to become a treasure.

But this white sprouting Broccoli has an interest of another kind, showing as it does a plain tendency to assume a form that connects the Broccoli with the wild Cabbage. The nearest approach among cultivated Cabbages to the wild form is to be found in the Thousand-headed and the Colewort, with their allies. What is called Cottager's Kale is evidently the same thing with a more vigorous and productive constitution. Then Brussels Sprouts are merely Kale with the lateral shoots turned in after the manner of Cabbages. In the example before us, we have a Brussels Sprout with all the end shoots and all the laterals forming Broccoli. This teaches us that the wild Cabbage has a natural tendency to form solid hearts, like Cabbages, and stunted succulent flowering branches, like Cauliflowers, and that all the forms of Cabbage known to us are the result of a more or less complex manifestion of those tendencies. This may be stated as follows:

1. *All the buds active and open. Flowers loose and perfect.* The wild Cabbage, Kale, etc.
2. *All the buds active and closed. Flowers loose and perfect.* Brussels Sprouts, etc.
3. *The terminal bud alone active and closed. Flowers loose and perfect.* Cabbages, Savoys, etc.
4. *The terminal bud alone active and open. Flowers abortive, in succulent heads.* Broccoli and Cauliflower.
5. *All the buds active and open. Flowers abortive in succulent heads.* Sprouting Broccoli.

Hence it follows that Brussels Sprouts are 1 with the peculiarity of 2, and that in the case before us we have a race with the tendencies of 1 and 4 combined. Of the causes that may have originally led to the appearance of these peculiarities we are profoundly ignorant. Nothing, however, more strongly than this Broccoli, supports Mr. DARWIN's views of the inheritance of peculiarities. "The laws governing inheritance," says this able naturalist, "are quite unknown. No one can say why the same peculiarity in different individuals of the same species, and in individuals of different species, is sometimes inherited and sometimes not so." "But the number and diversity of inheritable deviations of structure, both those of slight and those of considerable physiological importance, is endless." Probably the case before us adds another to the instances known to the learned author of the *Origin of Species.*—*London Gardener's Chronicle.*

THE FUCHSIA, OR LADIES' EAR DROP.

WITH most people, this is a favorite plant; and, when fashioned as in the above cut, we venture to say will lose none of its attractions. The mode of propagating and training is well understood. In the fall, take cuttings from the old plants, previous to throwing them away, and plant them into well drained, small sized pots filled with sand and loam—filling a pot of a sort, and place them in a close frame until rooted, when they should be potted off separately into No. 1 pots, and kept in that size pot until side shoots make their appearance, when they may be shifted into a size larger pot, with loose, rich earth—rich it must be, as the object is to have a very strong and rapid growth. They must be frequently shifted into larger pots until the eleven-inch size is attained, when that ought to suffice for a plant of any reasonable proportions. The side branches to be pinched again and again, until we have a compact, bushy plant, when they may be suffered to grow and flower at random.

JAMES CHAIB.

# EDITOR'S TABLE.

**New Advertisements this Month.**

Albany Agricultural Works—Emery Bros., Albany, N. Y.
The Horticulturist—C. M. Saxton, Barker & Co., New York.
Hungarian Grape Slips—John Kolber, New York.
Descriptive Catalogue—J. M. Thorburn & Co., New York.
The Phrenological Journal—Fowler and Wells, New York.
Family Pictorial—Marie Louise Hankins & Co., New York.
Life Illustrated—Fowler and Wells, New York.
The Magazine of Horticulture—Hovey & Co., Boston, Mass.
Flower Seeds for the Million—J. M. Thorburn & Co., New York.
Grape Vines—C. P. Bissell & Salter, Rochester, N. Y.
Seeds at Wholesale—J. M. Thorburn & Co., New York.
Poultry for Sale—Sherman Smith, Darien Depot Office, Conn.
Important to Farmers—Israel Forman, Grafton, Va.
Apple Stocks for Sale—Chas. Moulson, Rochester, N. Y.
Lithographs and Colored Fruit Plates—Thomas, Wright, Syracuse, N. Y.
The People's Mill—R. L. Howard, Buffalo, N. Y.
Cranberry Culture—Paul Chilson, Bellingham, Mass.

April Cash Prizes.—On the last page of this number will be found our List of Cash Premiums for the greatest number of subscribers sent in between the 15th of January and the 15th of April. There are twenty-one prizes, amounting to $235.

Last year we offered twenty prizes, amounting to $211. These prizes were taken by clubs of 23, 24, 25, 26, 29, 30, 34, 36, 43, 46, 53, 54, 55, 65, 70, 73, 74, 95, 123, and 141.

We mention this that our friends may have some idea as to how large a club will take a Premium.

We keep a careful account of all subscriptions sent in, and the Prizes will be awarded to the twenty-one persons who send in the largest lists between the 15th of January and the 15th of April.

There is not one of our agents who can not take one of the highest of these Prizes. All that is needed is a little personal effort. *Now is the time to commence.*

Great Success of the Genesee Farmer.—Thanks to our numerous friends who have acted as agents in obtaining subscribers, the prospects of the *Genesee Farmer* were never so bright and flattering as at present.

We give below the amount received for subscriptions up to the 17th of January in each of the following years:

| 1858. | 1859. | 1860. |
|---|---|---|
| $1,514 01. | $2,246 64. | $4,009 65. |

In view of these facts, we would desire to express our thanks to our friends for their disinterested efforts in our behalf. It shall be our aim to merit a continuance of their favors.

We shall spare no expense in making the *Farmer* worthy of their patronage. We can not fully compensate our agents—theirs is a labor of love—but we shall continue to offer Cash Premiums, although so few compete for them that it is rather discouraging. The April Cash Premiums are larger and more numerous than last year, and we hope our agents and readers generally will compete for them. (See last page of this number.)

Notes on the Weather from December 10th to January 16th and Results.—The first half of December was cold, giving the average heat 25.1°, or 6° below the mean of this half for 22 years.

The last half had the average 20.4°, or 5.1° below the mean. The whole month was 22.7°, or 5.5° below the mean. It was the coldest December since 1838, and as cold as that.

Only in four Decembers in 22 years, viz., in 1850, 1851, 1854 and 1856, was the cold down to zero, and only in one of those was it as low as on Dec. 29th, 1859, even 6° below. The previous day was very cold, and its average 3°.

The warmest December was 34.4°, in 1848.

Good sleighing began on the 9th and continued to the end of the year, on a hard frozen bottom, and a vast amount of business was done. Dec. 31st was a cold day, only 3° above zero. The cold was wide over the country.

The mean heat of the year was, at our house, 47.3°, which is the mean also of the 22 preceding years.

The quantity of water fallen in the year is 31.3 inches, while in 1858 it was 35.9 inches. The average water for the 22 years preceding is 32.19 inches. The water fell very unequally in the months. The following table gives the quantity in each month in 1859, and then the average monthly water for 22 years.

| *Months.* | *Jan'y.* | *Feb'y.* | *March.* | *April.* | *May.* | *June.* |
|---|---|---|---|---|---|---|
| 1859. | 1.37 | 1.07 | 2.49 | 4.03 | 1.86 | 1.17 |
| *Mean.* | 2.05 | 1.98 | 1.93 | 2.32 | 3.03 | 3.27 |
| *July.* | *August.* | *Sept.* | *October.* | *Nov.* | *Dec.* | *Year.* |
| 4.06 | 5.14 | 2.88 | 1.21 | 1.91 | 4.69 | 31.30 |
| 3.17 | 2.60 | 3.29 | 3.19 | 2.83 | 2.58 | 32.19 |

Frost occurred in every month in 1859, and was injurious in June; but the crops recovered from it, or the damage was less than had been supposed. Crops generally fine and large. Peaches, none over this section, but apples and other fruit most abundant.

It is hoped the wheat-head midge was destroyed by the frosts of June, as the destructive animal had then appeared, but soon disappeared, leaving little evidence of its presence after the frost. Should this prove true, a great blessing attended the frost, which can not be estimated by many tens of thousands of dollars in Western New York alone.

The Weather in Mississippi.—G. W. Gill, of Chulahoma, Marshall Co., Miss., writes us Dec. 24, 1859: "The winter so far has been the coldest we have experienced in this section for many years; and up to this date, there is no cessation of "freezes"—cabbages all killed—great difficulty to save sweet potatoes, of which we have made an abundant crop. I would be pleased to send you about ten potatoes from my crop as a sample of their growth in the South-west. I sent twenty-two sweet potatoes to Virginia this fall, which weighed seventy pounds. Our cotton crop will be a large one—for which we are getting good prices. Corn is scarce, and in demand. Meat is worth from seven to eight cents, and in demand. We have lost "lots of hogs" by cholera."

A Twenty-five cent Premium to Every Subscriber.—Every reader of the *Genesee Farmer* should have a copy of the *Rural Annual*. The price is only twenty five cents. But in clubs of eight we send the *Farmer* and *Annual* for fifty cents the two! In other words, you get the *Farmer* and *Annual*, for the price of the *Farmer* alone.

JANUARY PREMIUMS.—The January Premiums for the greatest number of subscribers sent in on or before the 15th day of January, have been taken as follows:

| | | | |
|---|---|---|---|
| 1. G. B. Whiteside, Brockport, N. Y., | $25 | for | 166 subs. |
| 2. Capt'n G. Converse, Wilkesbarre, Pa., | 20 | " | 157 " |
| 3. J. Mackelcan, Ancaster, C. W., | 19 | " | 129 " |
| 4. C. Howard, Hamilton, C. W., | 18 | " | 118 " |
| 5. Jonathan Miller, Berrysburg, Pa., | 17 | " | 94 " |
| 6. J. D. Palmer, Thurlow, C. W., | 16 | " | 90 " |
| 7. Chas. Cartwright, Johnstown, Pa., | 15 | " | 82 " |
| 8. B. W. Van Sise, Waterford, Pa, | 14 | " | 78 " |
| 9. D. E. Harris, Green Bay, Wis., | 13 | " | 75 " |
| 10. W. Hibbard, Manchester Station, Ct., | 12 | " | 73 " |
| 11. John Dorr, Scottsville, N. Y., | 11 | " | 70 " |
| 12. W. H. Scott, Ninevah, N. Y., | 10 | " | 65 " |
| 13. H. W. Moyer, Moyer's Corners, C. W., | 9 | " | 63 " |
| 14. R. W. Sawtell, Woodstock, C. W., | 8 | " | 62 " |
| 15. O. A. Paddock, Port Byron, N. Y., | 7 | " | 60 " |
| 16. Edwin Mallory, Fredericksburg, C. W., | 6 | " | 59 " |
| 17. Joshua Norrish, Eden Mills, C. W., | 5 | " | 56 " |
| 18. G. W. Reynolds, Bushville, N. Y., | 4 | " | 54 " |
| 19. Fisher Ames, Frontier, N. Y., | 3 | " | 53 " |
| 20. R. J. Smith, Hillsburg, C. W., | 2 | " | 52 " |
| 21. W. McClymonds, New Castle, Pa., | 1 | " | 51 " |

Our friends can draw on us at sight for the amount, or we will send it by mail or in any other way they may designate.

NOW IS THE TIME TO SUBSCRIBE.—Unlike a *News*-paper, the *Genesee Farmer* is none the worse for being a few weeks behind time. The January number is as fresh and useful now as when issued. The present is an excellent time to get subscribers. If you, kind reader, know of any of your neighbors who do not take an agricultural paper, show them a copy of the *Genesee Farmer*, and take and forward us their subscriptions. And even those who take other papers would not be injured by reading the *Farmer*. It is so cheap that *all* can afford to take it.

CHEAP READING.—One volume of the *Genesee Farmer* contains 384 pages, and the *Rural Annual* 120 pages. In clubs of eight, we furnish the *two* for half a dollar. *Five hundred and four pages for fifty cents!* What farmer need be without good reading for himself or his children? Any of our agents who have sent us a club of eight subscribers for the *Genesee Farmer*, can have eight copies of the *Rural Annual* for one dollar!

ADDITIONS CAN BE MADE TO CLUBS at any time, at the club rates. After you have got a club of eight subscribers, you can send on the names of one or more subscribers at 37½ cents each. If the members of the club have not had the *Rural Annual*, they can still have them at the club rates. In other words, we will send you eight copies of the *Annual* for one dollar.

THERE ARE MANY YOUNG MEN who could not do better than to act as agents for the *Genesee Farmer*. A few days spent in soliciting subscriptions among the neighbors would secure one of our largest Cash Premiums. All that is required is to show them a copy of the paper, and tell them its marvellously low price. *Now is the time to commence.* See list of Cash Prizes on the last page.

PEACH BUDS.—So far, we have ascertained by examination that the peach buds in this vicinity have escaped uninjured from the effects of frost, and although danger is not yet past, yet the chances are very good for a crop of peaches the ensuing season. We are sorry to learn that in Southern Ohio the reverse is the case. In Ross, Hocking, Vinton, and Warren counties, "the destruction is quite general in the low lands," and the full extent of the damage can not now be fully known.

A NEW USE FOR OUR SHOW-BILLS.—R. W. SAWTELL, Esq., of Woodstock, C. W., writes us as follows: "Your show-bills are received; one is posted in a conspicuous place in the post-office, and the other on the wall of my sitting-room; and such is the attraction of the stars and stripes that my oldest child has learned nearly all her alphabet therefrom in two weeks. I have no doubt I shall be able to send you a large club for the *Genesee Farmer*, for the more it is read the better it is liked. The last volume is decidedly a progressionist, and approximating to perfection."

"HOW DO YOU APPOINT AGENTS FOR THE GENESEE FARMER?"—We have none but voluntary agents. We invite *all* our readers who like the *Farmer* and are desirous of increasing its circulation to act as agents for it. If there is no agent at your post-office, we should feel greatly obliged if you will take and forward the names of subscribers.

GIVE THE GENESEE FARMER A TRIAL.—MR. WILLIAM REYNOLDS, of Elora, C. W., sends us twenty subscribers to the *Farmer* and *Annual*, and says "The paper is highly approved of by all who can be persuaded to give it a year's trial."

THE press on our columns is so great this month that we have been compelled to leave out a number of illustrations, several prize essays and other communications, together with many inquiries, answers to correspondents, etc.

## Inquiries and Answers.

DRAWING OUT MANURE IN WINTER.—I want you to tell us about hauling dung right from the stable on to prospective corn ground. Is it better to leave it in the barn-yard, exposed to the rains and evaporation of spring, to be hauled in April or May, as the ground may be fitting, or to put it on now and let the leach go into the land? I know you, as a scientific and able farmer, may say it should be kept under cover and composted; but *that* the generality of farmers can not or will not do.—CHARLES PALMER, *Mansfield, Ohio.*

Better draw it out during winter, while you have more leisure and the ground is frozen. Put it in small heaps, or, what we think would be better, spread it over the land ready for plowing under. If the land is in clover, the manure will give it an early start, and clover and manure can be plowed under together just before planting.

PEAS ON NEW LAND.—I would like, for the benefit of myself and others, to know the best method of raising a crop of peas on newly cleared lands. 1st, best variety; 2d, how many to sow to the acre; 3d, whether plowing or dragging in is best; 4th, at what season should they be sown north of latitude 43°. Also, what reliable works on drainage, and soiling stock, are published, and where to be obtained. Perhaps some of your contributors can enlighten me.—E. T. CREESEMAN, *St. Louis, Gratiot Co., Mich., Dec. 7, 1859.*

RABBITS GNAWING TREES.—(M. S. F., *Columbia, Tenn.*) Boxing around each tree one or two feet high, or binding a piece of old tin around, we have heard of being a successful practice of defense against the gnawing of rabbits. Earthing up each tree about two feet high, is also a common, and we believe generally, an effectual remedy.

A. H.—We can send you NORTON'S *Elements of Scientific Agriculture*, pre-paid by mail, for sixty cents.

MARKING SHEEP.—Please inform me through the *Farmer* how I can mark my sheep so as to know the cross and age of each one at sight. I have tried lettering them with indigo, after shearing, but find it washes off with the rain. —J. S., *Laurel, Franklin Co., Ind.*

POTATOES.—Where did the following varieties of potatoes originate: Orange Pink-eye, English Whites, Leopards, Black Kidney, and Cow Horn? An answer would be thankfully received by W. H. H. PEARSONS, *St. Lawrence Co., N. Y.*

WHAT causes cattle to loose the cud, and what is the best remedy? Will Hungarian grass do well sown as early as April in this latitude?—E. B., *Trumbull Co., O.*

LIME FOR FRUIT TREES.—I would like to hear from those who have had experience, in regard to limeing orchards. —LEVI LEDO, *Dauphin Co., Pa.*

# REVIEW OF THE MARKETS.

GENESEE FARMER OFFICE,
ROCHESTER, N. Y., JAN. 20, 1860.

THERE is a degree of steadiness in the Flour and Grain markets at present, but there is also a want of activity. Speculative purchases have been made to a large extent during the last few weeks. These purchases have imparted an impulse to the trade, and contributed largely to sustain prices. The advance since our last issue, is from five to ten cents per barrel. Confidence in an early and large advance, is felt by many who, probably, think the market will take a course now, similar to the one it took last year. This may be the case, though it is not very likely. The stock is large. The current rates are above the limits of most orders for export, and buyers for the home trade are not willing to purchase more than is required for immediate use, without some abatement. Canadian Flour is not plenty, and the demand is good at full prices. The demand for Southern Flour is also good; but, with a large stock, the tendency of prices is downward.

Wheat is inactive. Shippers are mostly out of the market, and millers are unwilling to purchase more than a supply for present wants, except at lower rates. The few purchases for shipment may be regarded as made for special purposes, rather than as indicative of the foreign demand. The receipts have fallen off, but the stock is large. The demand for Rye is fair at improved rates. Barley and Oats are quiet and dull, with an ample supply. Corn is lower, but steady and firm, with a good demand, light receipts, and a moderate stock.

The English markets have been steady, and at the date of our last advices were tolerably firm. On the continent of Europe and in Northern Africa, the markets show a good degree of steadiness. A slight improvement is manifest in some instances, and a yielding tendency in others. The approaching European Congress will be regarded with interest, and much will depend on the result of its deliberations.

Regarding matters in the light of present and prospective supply and demand, we discover nothing to justify confidence in any important advance of a legitimate character. Bold and concerted action may influence prices, and govern the market for a time,—for the devices of the Corn Exchange bear a near resemblance to those which mark the operations of the Stock Board—but there is nothing in the present aspect of affairs to warrant, or sustain, much higher rates.

Provisions, generally, are unsettled, with a fair demand. Pork is dull and declining. Beef is steady, with light receipts, and a fair demand. Bacon is dull and declining; the supply is fair. Cut meats are rather lower, with increased receipts. Dressed hogs are plenty, dull, and declining. Lard is dull, with more arriving, and a limited demand for the home and export trade. Butter and Cheese are steady and in good request.

The supply of Beef Cattle is equal to the demand, with the exception of first quality, which are scarce. The stock offered consists mainly of a coarse, unprofitable kind, and ill fed withal. If those who breed and feed cattle for market, would procure the best kind, and feed them in the best manner, they would soon find their own pecuniary interest promoted thereby.

The market for Wool is quiet, but firm; the stock of most kinds is small. A large sale took place recently in Boston, which was well attended, and much spirit was manifest on the part of buyers.

## ROCHESTER MARKET.—Jan. 20.

FLOUR—Market steady, with but little doing. Superfine $4.75@$5.25; extra, $5.50@$6.50. Buckwheat Flour $1.75@$2 per 100 lbs.

GRAIN—Wheat steady but inactive. White, $1.35@$1.38; red, $1.15@$1.20. Corn. 65c. Oats, 36c. Barley, 60c@62c. Rye, 70c@72c. Buckwheat, 45c@50c. White Beans, 75c@$1.

SEEDS—Clover, $4.50. Timothy, $2.25@$2.50. Flax, $1.25

PROVISIONS—Mess Pork, $17@$18 per bbl. Hams—smoked, 10c. Shoulders do, 8c. Lard, 11c. Butter—fresh roll, 16c@17c; do. firkin, 15c@16c. Cheese, 8c@10c per lb. Eggs, 17c per dozen. Chickens, 7c per lb. Turkies, 9c@10c per lb. Potatoes, 31c@40c. Beef, 4¼c@5¼c per lb. by the side. Mutton, 8c@9c by the carcase. Dressed Hogs $6@$6.50 per 100 lbs.

APPLES—31c@50c per bushel.

CATTLE MARKET—Beef cattle, $3.50@$4.50, live weight. Sheep, $3@$5 each. Calves, $4@$5 each.

HIDES—Slaughter, 5¼c. Calf skins, 10c per lb. Sheep pelts, $1.25@$1.62½ each. Tallow, 8c per lb.

HAY—$14@$19 per ton.

## NEW YORK MARKET.—Jan. 20.

FLOUR AND MEAL—The market is less active. State superfine, $5.20@$5.25; extra do, $5.30@$5.40; Western superfine, $5.25@$5.35; extra do, $5.40@$5.50. Ohio round hoop extra, $5.70@$5.85. Ohio, St. Louis and Genesee extras range from $5.75 to $7.25. Canadian Flour, $5.70@$7 for common to choice extra. Southern Flour is steady. Baltimore superfine, $5.50@$5.65; extra do, $5.70@$6.25. Brandywine, $6@$6 10. Georgetown, $5.60@$6.50. Petersburg City, $6.30@$7. Richmond City $6.25@$7.25. Gallego and Haxall, $8@$8.25 Rye Flour dull at $3.75@$4.40 for fine and superfine. Corn meal inactive. Jersey, $3.80@$3.90. Brandywine, $4.20. Puncheons, $19.50.

GRAIN—Wheat in limited demand. White Southern, $1.40@$1.50; do Western, $1.40@$1.55. do Canada, $1.37@$1.45; red Southern, $1.30@$1.34; do Western, $1.30; Milwaukee and Canada club, $1.22@$1.25. Chicago spring, $1.20. Rye steady at 90c@92c. Barley 75c@85c. Corn, 52c@58c for new white and yellow; 90c for old Southern yellow, and 93c for white do. Oats dull at 40c@43c for Jersey, Delaware, and Pennsylvania; 45c@46c for State, Western, and Canadian. Canadian Peas, 89c@90c. White Beans, $1.10@1.25.

SEEDS—Clover, 8¼c@9c per lb. Timothy, $2.25 for mowed, and $2.75 for reaped per bushel. Flax, $1.50@$1.55 for rough American. Red top, $2.50@$2.62½ per five bushel bag.

PROVISIONS—Pork steady, but not very active; old Mess, $16.25; new do, $16.85@$17.50; old Prime, $11.50; new do, $13. Beef is in fair demand and steady at $5@$5.25 for country mess, and $4@$4.25 for prime do; $9@$9.75 for repacked Western; $10.50@$11.50 for extra mess; India mess, $22. Beef hams, $14.75. Bacon quiet at 8¾@9¼c. Cut meats steady and in fair demand. Hams, 9c@8¾c. Shoulders, 6½c@6¾c. Green meats steady, Hams, 9c@9¾. Sides, 8c. Dressed Hogs are in demand at 6¾c @7c per lb. Lard is dull at 10¼c@10¾c. Butter is plenty—Ohio, 12c@17c; State, 13c@22c for fair to prime; Orange County, 22c@23c. Cheese in fair demand at 9c@11c per lb. Potatoes —Mercers, best, $1.62@$1.75; common do, $1.25@$1.40; Peachblows, $1@$1.38; Dyckmans, $1.38@$1.50; Junes, Round Pinkeyes, Western Reds, and Jackson Whites, $1.25@$1.38 per bbl. Nova Scotia, 35c@40c per bu.

CATTLE MARKET—Beef cattle dull. First quality, 9c@10c; medium, 7c@8c; ordinary, 5c@7c; extra good, 10½c@11c per lb. Veal calves 6c@7c per lb. live weight. Sheep and Lambs $250@$5.75 per head. Corn fed Hogs, 5¼c@5¾c; still fed 5c@5¼c per lb. gross.

WOOL—Domestic Fleece, 40c@65½c per lb. for the range of qualities.

## PHILADELPHIA MARKET.—Jan. 19.

FLOUR AND MEAL—Market dull. The demand is chiefly from local trade, there being but little inquiry for shipment. Superfine, $5.50@$5.75; extra and fancy, $6.@$7, as to quality. Rye Flour dull at $4.25. Corn Meal, quiet at $3.75.

GRAIN—Wheat quiet with little offering. White, $1.45@$1.50; red, $1.35@$1.36. Rye steady at 92c@93c for Pennsylvania. Corn firm at 76c@77c for new yellow. Oats firm at 45c@46c for Pennsylvania. Barley malt, 90c; Barley, 80c.

SEEDS—Clover, $5.25@$5.50, with but little prime offering Timothy and Flax steady and without change.

PROVISIONS—Mess Pork, $17.50. Mess Beef, $14@$15 per bbl. Bacon inactive. Hams, 11¼c@12¼c. Sides 10c; Shoulders, 8c; Green Hams, 10c@10½c; Sides, 9c; Shoulders, 7c. Lard, 10½c@11c for bbls., and 11¾c@12c for kegs. Butter dull at 14c @17c for roll, and 10c@12c for packed. Cheese steady at 10c@ 11c per lb. Eggs dull at 20c per doz.

FRUIT—Market quiet with no change to notice.

WOOL—Market very inactive. The stock is light, and holders are firm; but manufacturers are well supplied.

### BUFFALO MARKET.—Jan. 19.

FLOUR—Market dull with but few transactions, except for retail. State extra, $4.90@$5; Wisconsin extra, $5.25; Ohio extra, $5.75; Indiana and Ohio double extra, $6@$6.25.

GRAIN—Wheat market very quiet; scarcely any sales. Canada Club, $1.05. Corn 68c@70c. Rye, 75c@80c. Barley, 65c@ 68c. Oats, 37c@38c. Peas, 64c, but inactive.

SEEDS—Clover active at $4.87½@$5. Timothy, $2.62@$2.75. Flax, $1.55.

PROVISIONS—Prime Mess Pork, $16. Dressed Hogs, $5.87½ @$6.20 per 100 lbs Lard, 10¼c@10½c. Hams, 10c for plain, and 11c for sugar cured. Shoulders, 7¼c. Beef hams, 9¼c. Butter, 16c@17c per lb.

### CHICAGO MARKET.—Jan. 18.

FLOUR—Market inactive at advanced rates. White winter extra, $5.50@$6; spring extra, $4.84@$5 for favorite brands. Rye Flour, $3.75@$4.25.

GRAIN—Wheat firm, at a slight advance. We quote red winter, $1.10; No. 2 spring, 96c@$1; No. 1 do., $1.01@$1.02; Iowa club, $1.03@$1.05. Corn, 44c@51c, according to quality. Barley 60c@62c. Rye scarce at 78c@80c. Oats firm at 36c@37c.

SEEDS—Timothy, $2@$2.10. Clover, inquired for at $4.50@ $4.63. Hungarian grass, 72c@75c.

PROVISIONS—Mess Pork quiet at $15.25@$15.50. Bulk meats active at 6¾c for green sides; 5¾c@5¾c for cured shoulders; 7¾c@7¾c per lb. for green hams. Dressed Hogs $4.60@ $5.00. Lard, 9¾c Butter plenty at 14c@15c for fresh, and 10c for firkin. Cheese unchanged. Eggs 15c@16c per dozen. Potatoes 45c@60c per bushel for Neshannocks and Pinkeyes.

FRUIT—Green Apples, $2.50@$3.00 per barrel. Cranberries, $4.50 per bushel. Dried Peaches, 11½c@12c for unpared, and 17c@18c for pared, Dried Apples 7¾c per lb.

CATTLE—Beef Cattle, $2.25@$3.00. Live Hogs, $4.85@$4.70 per cwt. gross.

HIDES—Green, 6¾c; green salted, 7c; dry salted, 11c@13c; dry flint, 13¾c@14c. Pelts, 90c@$1.20. Tallow, 10c per lb.

HAY—Prairie, $8@$9 loose; Timothy baled, $12 per ton.

WOOL—Nothing doing.

### CINCINNATI MARKET.—Jan. 18.

FLOUR—Heavy; superfine, $5.30@$5.40; extra, $5.40@$5.60.

GRAIN—White Wheat $1.25@$1.28; red, $1.20@$1.22. Corn dull, but rather higher, closing at 54c@55c. Rye in good demand at $1. Barley unchanged at 63c@68c for spring, and 73c@75c for fall. Oats firm, but lower, at 48c@49c.

PROVISIONS—Mess Pork firm. Holders ask $16.75@$17— $16.50 is offered for first class brands. Bulk meats held at 6¾c@ 8¼c—some sales at 6c@8c. Green hams, 7¾c@8c. Bacon 7¾c @9c. Lard rather lower, and held generally at 10c. Butter dull and lower. Central Ohio, 13c@15c; Western Reserve, 16c@17c. Cheese active and a shade higher, at 9¾c for Western Reserve, and 11c for imitation English dairy. Eggs in good demand at 18c per dozen. Green Apples in moderate demand at $2.25@ 3.25 from store. Potatoes dull at $1.75, for prime, per barrel.

FRUIT—Dried Apples rather higher, at 6¾c@7c. Dried Peaches, 10@12¼c per lb. Cranberries $12.00@$14.00 per barrel.

CATTLE AND HOGS—Beef Cattle in fair demand, prices varying from $2 to $3.50 per 100lbs. gross. Sheep, $2.00@$5.00 per head. The supply of Hogs has fallen off, as the season is about closing, and the prices are almost nominal. They are quoted at $6.00@$6.50 per 100 lbs. net.

HIDES—Active. Flint, 12¼c@13c; dry salted, 11¾c@12c; green salted, 6¾c@7c per lb. Sheep pelts, 75c@$1.00each. Tallow, 10c@10½c per lb.

HAY—Active, and prices firm at advanced rates. Prime press-Timothy, $24.00 per ton.

### TORONTO MARKET.—Jan. 18.

FLOUR—Quiet, at $4.60 for Superfine; $4.90 for fancy, and $5.25@$5.50 for extra.

GRAIN—Wheat buoyant at $1.18@$1.25 for fall; $1.00@$1.05 for spring. Barley active at 60c@65c. Rye at quiet 70c@75c. Oats scarce at 27½c@40c. Peas in request at 56c@61c per bushel.

PROVISIONS—Pork lower, but in demand at $5.50@$6.25 per 100 lbs. Fresh Butter, 18c@20c; tub brisk at 15c@16c per lb. Cheese, 10c@12c per lb for American. Eggs, 15c@16c per dozen. Potatoes plenty at 80c@85c per bushel.

POULTRY—Small demand. Turkies, 50c@75c. Chickens, 25c@30c each.

HAY—Large supplies by importation have lowered the market, and the range is from $16 to $23 per ton. Straw, $9@$10 per ton.

### LIVERPOOL MARKET.—Dec. 30.

FLOUR AND MEAL—Western canal Flour. $4.04@$5.28 for old, and $5.76@$6.24 for new; Philadelphia, Baltimore, and Ohio, $5.76@$6.48; Canadian, $5.00@$6.48; extra qualities, $6.24@ $6.72; sour, $4.80@$5.28. Corn Meal. $4.56@$4.80.

GRAIN—American white wheat, $1.51@$1.66; red do, $1.37@ $1.48; Canadian white, $1.44@$1.58; do. red. $1.32@$1.44. Indian corn—white, $1.08@$1.14; yellow, 93c@96c; mixed, 93c@ 94½c. All per bush. of 60 lbs.

WOOL—Domestic fleece, 12c@38c. Colonial, 14c@72c; German, Saxon, and Prussian, 40c@$1.08 per lb.

### LONDON MARKET.—Jan. 2.

FLOUR—American sour, $5.52@$6.48; sweet, —.

GRAIN—Wheat—American white, $1.29@$1.47; do red. $1.26 @$1.41. Indian corn—white, 98c@$1.02; yellow, 90c@96c, per 60 lbs.

WOOL—Domestic fleece, 32c@39c; sorts, 30c@48c per lb.

### BRIGHTON CATTLE MARKET.—Jan. 19.

At market, 1200 Beeves, 100 Stores, 2000 Sheep and Lambs, 150 Swine.

PRICES—Market Beef—Extra. $8.00@$0.00; First quality, $7.00@7.50; Second. $6.75; Third. $5@$5.50. Working Oxen— $85@$100. Milch Cows—$32@$40; Common, $17@$18. Veal Calves—$3.00@$6.00. Yearlings—None. Two Years old—$17 @$23. Three Years old—$24@$27. Hides—6c@6¾c per lb. Calf Skins—10c@11c per lb. Tallow—7@7¾c. Sheep and Lambs—$2.00@$2.75; extra, $3.00@$7.00 Pelts—$1.50@$1.75. Swine—Fat Hogs, none. Pigs, 5c; retail. 5c@6¾c.

REMARKS.—Prices of Beef remain the same as last week. Sheep and Swine, not as many at market, but no variation in prices.


## ADVERTISEMENTS.

A FEW short advertisements of interest to farmers—and only such—will be inserted in the *Genesee Farmer* for twenty-five cents a line, or $2.50 per square, each insertion, payable in advance. To secure insertion, they should be sent in by the 15th of the previous month. The *Farmer* has large lists of subscribers in *every State and Territory, and in all the British Provinces.* (It has nearly 3000 subscribers in Canada West alone.) There is no better or cheaper medium for advertising everything of general interest to rural residents in all parts of the United States and Canada.

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## CONTENTS OF THIS NUMBER.

Bones as a Fertilizer ..... 41
Large Yield for Two Acres ..... 42
Scarcity of Fodder. Cotton in Illinois ..... 42
Potatoes Planted with Corn. Guano ..... 43
California Potatoes. Wheat from the South ..... 43
Cut and Crushed Food for Horses ..... 43
Farmer's Clubs. Heavy Oats. Plaster ..... 44
Large Yield of Large Pumpkins ..... 44
Feeding Turnips to Cows ..... 44
Spirit of the Agricultural Press ..... 45
Testimonial to John Johnston, of Geneva ..... 45
Large Farms. Osage Orange Hedges ..... 45
Large Fleeces of Wool. Singed Bacon ..... 45
Fertility of Subsoils. Farming in Missouri ..... 45
Salted Water for Sheep ..... 45
Notes on the Dec. and Jan. numbers of the Genesee Farmer. 46
Hampshire Bacon. Cure for Heaves in Horses ..... 47
Selecting Calves for Rearing. Knot killer. Seed Corn ..... 48
The Proper Depth of Underdraining ..... 48

### GENESEE FARMER PRIZE ESSAYS.

Can Sheep be Profitably Fattened in Winter, and How ..... 48
Raising Sweet Apples for Feeding Cattle and Swine ..... 50
Raising Rye instead of Oats for Feeding ..... 51
Feeding Cattle. Is it Best to Hill Corn, or not ..... 51
The Best Method of Raising and Fattening Hogs ..... 52
Substitutes for Hay. Good Hogs ..... 53
Wagon Tires. Water for stock ..... 54
White Specks in Butter ..... 55
Vetches and Tares. Wood Land ..... 55
Recreations and Amusements for Farmers and their Families. 56
Hunting Wild Bees. Dwarf Pear Trees ..... 57
Best Method of Renovating Old Orchards ..... 58
Apple Trees Around the Farm ..... 59
Best Fruit for Market Purposes ..... 59

### HORTICULTURAL DEPARTMENT.

Fruit Growers' Society of Western New York ..... 60
Injury to Apple Trees at the West ..... 62
Grafting Grape Vines ..... 63
White Sprouting Broccoli ..... 64
The Fuchsia, or Ladies' Ear Drop ..... 65

### EDITOR'S TABLE.

April Cash Prizes ..... 66
Great Success of the Genesee Farmer ..... 66
Notes on the Weather ..... 66
Items, Notices, &c ..... 67
Inquiries and Answers ..... 67

### REVIEW OF THE MARKETS.

General Remarks ..... 68
Market Reports ..... 68, 69

### ILLUSTRATIONS.

Grafting Grape Vines ..... 63
White Sprouting Broccoli ..... 64
The Fuchsia, or Ladies' Ear Drop ..... 65

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